J. W. Sweadwell's 1795

CLINICAL EXPERIMENTS, HISTORIES, AND DISSECTIONS.

By FRANCIS HOME, M. D.

ONE OF HIS MAJESTY'S PHYSICIANS, FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, AND PROFESSOR OF MATERIA MEDICA IN THE UNIVERSITY OF EDINBURGH.

SECOND EDITION, CORRECTED.

LONDON:

PRINTED FOR J. MURRAY, N° 32, FLEET STREET, AND WILLIAM CREECH, EDINBURGH.

MDCLXXXII.

2334

TO THE

MANAGERS

OF THE

ROYAL INFIRMARY

OF

EDINBURGH,

THF FOLLOWING SHEETS ARE
DEDICATED,

BY THEIR MOST OBEDIENT,

HUMBLE SERVANT,

FRANCIS HOME.

233

NOTHING, at preſent, more diſtinguiſhes civilized from barbarous nations than the inſtitution of hoſpitals for the relief of the ſick. They keep proportion with, and are the moſt certain teſts of poliſhed and humane manners. Beſides the pleaſure which ariſes in a benevolent mind from the contemplation of the relief which hoſpitals afford, theſe charitable inſtitutions amply repay the expence which the public beſtows on them, by promoting the ſtudy and practice of medicine. Under one roof are collected a great variety of morbid caſes, to which ſtudents have an eaſy acceſs, and where a wide field is opened to phyſicians for the improvement of their ſcience.

The ſtudent has there an opportunity of ſeeing a variety of diſeaſes, without much loſs of time; and becomes a ſkilful practitioner, before he claims, as a phyſician, the confidence of his fellow-citizens. He is there taught to avoid many dangerous miſtakes, into which one who begins the practice of medicine, without this aſſiſtance, is apt to fall.

The phyſician finds many advantages there for the improvement of his art. The patients, with whom he meets, have ſeldom contributed to debilitate their conſtitutions; their complaints originate from the body, and but rarely from

from the mind; their theories and caprices are not ſo troubleſome to him as thoſe of people in higher life; they have ſeldom undergone a long courſe of medicine; and their diet is under abſolute controul. On theſe and other accounts, their diſeaſes have a greater chance of appearing in a ſimple and natural ſtate.

Nothing hinders the phyſician from following his own reaſon and experience in the cure, and he is reſponſible to his own conſcience alone. He can try different and new methods of cure, provided he has a probability of ſucceſs, and proceeds with proper caution. Not the leaſt advantage, which ariſes from hoſpital practice, is the ſimplicity with which remedies are preſcribed, as to number and preparation, by which they do not diſturb the operations and effects of each other; and their natural and genuine properties are diſcovered and aſcertained, from which medicine receives much improvement.

Theſe advantages belong ſtill in a higher degree, to the clinical ward of the Royal Infirmary of Edinburgh; as the beſt marked diſeaſes, the moſt ſingular in their nature, and the greateſt variety of acute, as well as of chronic, are choſen for it. Regular and circumſtantial reports of every ſymptom belonging to the diſeaſe, and of every effect produced by the remedies exhibited, are taken conſtantly once,

and

and in acute and urgent caſes, generally twice every day, in preſence of the ſtudents. Theſe reports are all reviewed, when the caſe becomes the ſubject of the clinical lecture. There cannot, therefore, be a more uſeful addition to a medical college, nor a more favourable inſtitution for the improvement of the ſtudent, of the phyſician, or of medicine itſelf. In that point of light I have always conſidered the clinical ward; and, therefore, think myſelf accountable to the public for the uſe which I have made of ſuch advantages. That opinion produced the following publication.

As there are many obſtacles to the improvement of medicine, ſo there are ſeveral aids, which, if carefully attended to, will give it a great degree of certainty. One of theſe, is a deſcription of all the circumſtances preceding, attending, and following the adminiſtration of different remedies, in morbid caſes. Remedies exhibited in ſuch diſeaſed ſtates of the body, and the effects reſulting from their operation, when accurately and faithfully deſcribed, are real experiments in this branch of natural knowledge, and tend to make medicine as certain as moſt other ſciences.

With this view, during my attendance on the clinical ward for two ſummers, and a part of ſix winters, the following experiments were made, to aſcertain the effects and value of ſeveral

veral remedies in general uſe, and to diſcover new relations in others. To give theſe experiments the utmoſt degree of certainty, the day of the month, and the year in which the patients were received into the clinical ward, are conſtantly marked; ſo that any perſon may conſult the caſes in the clinical report-books, kept in the Infirmary, where he will find them at full length, as they have here been much ſhortened.

Another principal foundation of medicine, is an accurate hiſtory of diſeaſes. An account, therefore, is given of ſuch as ſeemed moſt uncommon, or whoſe nature has not yet been well aſcertained; and we have, in them, been as attentive to the ſymptoms and progreſs of the diſeaſe, as in the others to the exhibition of the remedies.

Medicine owes much aſſiſtance to the inſpection of morbid bodies by the moderns. That information is likewiſe ſubjoined when the iſſue was fatal, and when that inſpection was allowed.

To ſome, a minute recital of facts may appear tedious. But then they ought to conſider, that this was the firſt, and is ſtill the moſt certain method of improving medicine; and that many of the concluſions are new, and contrary to the common opinions; on which account they ought not to be received on my word alone, but be ſubjected to the judgment of

every perſon. The pleaſure ariſing from truth and conviction muſt, at leaſt, attend them.

By the following experiments, the effects of remedies have rather been retrenched than extended, and the powers of many, in high repute, are rendered ſomewhat doubtful. To compenſate that loſs, we have endeavoured to eſtabliſh, in others, ſome new properties, which we hope future trials will confirm. Concluſions from experiments made in the clinical ward, muſt meet with more credit than thoſe derived from private practice; as they are performed before ſo many ſpectators; as they are reviewed in the clinical lectnres; and as they are preſerved in the private report-books of each gentleman preſent, and in thoſe kept in the Royal Infirmary.

CON-

CONTENTS.

SECT. I.

Experiments with regard to the moſt proper time of giving the Bark in Intermittents - - Page 1

SECT. II.

Experiments upon ſome Remedies uſed in the Typhus Nervoſus. Cortex Peruvianus. Tinctura Cantharidum. Epiſpaſtica. Fomentation of the Legs. Camphire. Antimonials; Tartar Emetic and James's Powder compared. Opiates. Petaſites. Concluſion 13

SECT. III.

Pleuritis Spuria Epidemica - - 59

SECT. IV.

Febris Puerperalis - - - 70

SECT. V.

Morbilli - - - - 95

SECT. VI.

Experiments upon ſome Remedies uſed in the Phthiſis Pulmonalis. Acidum Vitriolicum. Alumen. Cortex Peruvianus. Amylum. Aër Mephiticus. Vapor Thuris - - - 112

SECT. VII.

Melaene - - - 127

SECT. VIII.

Experiments upon the Rhododendron Chryſanthemum Lin - - - 145

SECT.

SECT. IX.

Cephalalgia - - - - 151

SECT. X.

Experiments on Sir Hans Sloane's Ointment in the Albugo or Leucoma - - - 157

SECT. XI.

Experiments upon Antiſpaſmodics. Fear. Balneum Frigidum. Venaeſectio. Electricitas. Epiſpaſtica. Valeriana Silveſtris. Moſchus. Camphora. Caſtoreum. Aſſafoetida. Spiritus Æthereus Vitriolicus. Cortex Peruvianus. Artemiſia. Peonia. Viſcus Quercinus. Extractum Hyoſcyami. Folia Aurantiorum. Cardamine Pratenſis Lin. Opium. Cuprum Ammoniacale. Flores Zinci. Mercurius. Concluſion - 162

SECT. XII.

Experiments upon ſome Antiparalytic Remedies. Venaeſectic Doronicum Germanicum Off. Urticatio. Balneum Calidum - - - 251

SECT. XIII.

Experiments upon the Effects of Oleum Terebinthinae in the Sciatica - - - 265

SECT. XIV.

Experiments upon the Effects of a Linament in the Lumbago - - - - 281

SECT. XV.

Iſchuria Rhenalis. Iſchuria Veſicalis. Iſchuria Urethralis - - - - 288

SECT. XVI.

Diabetes - - - 319

SECT. XVII.

Experiments upon ſome Remedies uſed in Dropſy. Cremor Tartari. Scilla Exſiccata. Ulcus Perpetuum 351

SECT.

SECT. XVIII.

Experiments upon ſome Remedies uſed in the Amenorrhoea. Compreſſion of the Crural Artery. Venaeſection. Sabina. Rubia Tinctorum - - 409

SECT. XIX.

Experiments upon ſome Remedies uſed in the Herpes, or Lepra Graecorum. Cantharides. Cortex interior Ulmae. Vipera. Sarſaparilla. Mercurius dulcis and Sulphur Antimonii Praecipitatum. Acidum Vitriolicum - - - 437

SECT. XX.

Experiments upon the Vermifuge Effects of the Spigelia Marylandica - - - 457

SECT. XXI.

Experiments upon the deobſtruent Effects of Mezereon 466

SECT. XXII.

Experiments upon the Effects of the Verbaſcum in Diarrhoea - - - 473

SECT. XXIII.

Experiments upon the Antihaemorrhagic Effects of the Cucurbitulae ſine Ferro, or dry cupping. - - 479

SECT. XXIV.

Experiments upon ſome Lithontriptics - - 483

CLINICAL

CLINICAL EXPERIMENTS AND HISTORIES.

SECT. I.

Experiments with regard to the moſt proper time of giving the Bark in intermittents.

WE truſt, now, the cure of the ague to the bark alone. We ſhould, therefore, be certainly acquainted with the beſt time for giving it; that is to ſay, the time in which it exerts, moſt powerfully, and moſt ſafely, its effects. A diſeaſe, ſo very apt to recur, demands its utmoſt powers. It is often neceſſary to ſave the bark, as much as poſſible, in the army and navy. It may become ſcarce during war, or fail us from other accidents. Leſs will do,

when given in the proper time; more will be required in a leſs proper time.

It has been given at three different periods, juſt before the fit, juſt after the fit, and from the end of one fit to the beginning of the ſucceeding, at proper intervals; for it has never been preſcribed, ſo far as I know, during the paroxyſm. When firſt introduced, two drachms of it were given, two hours before the fit; and, as it was the common practice, it muſt, then, have often ſucceeded. Some, eſpecially thoſe who think that it acts directly on the nerves of the ſtomach, ſtill prefer this method; others, again, are of opinion, that it is moſt powerful after the fit. Amongſt the latter is Sydenham, who ſays, in his epiſtle to Dr. Brady, "that bark given before the fit, has not ſo good an effect as after it; and that it, often, deſtroyed the patient, by throwing him into a continued fever." Torti and Cleghorn are of the ſame opinion. Practitioners have, moſt commonly, given it in the third method, as including both the firſt and ſecond. But, for what they knew, the cure may depend on the firſt or laſt doſes; and the others may be at leaſt

uſeleſs,

uſeleſs, as they are always diſagreeable and burthenſome to the ſtomach. Our enquiry muſt be, therefore, whether the firſt or ſecond method be the beſt; and that can be determined by experiment alone.

EXPER. I. May 3, 1769. Katharine Fraſer, aged 23, had a double tertian for a month. For ſome days the fit came on regularly at 3 A. M. After a vomit and a doſe of the infuſum amarum. On the 6th ſhe took a drachm of the Peruvian bark at 12 at night, and the ſame doſe at 1 in the morning. But the fit attacked her at a quarter of an hour before 2 A. M. 7th, This night ſhe took three doſes in the ſame way before the fit. She had a fit at the uſual hour, but ſlighter. 8th, This night the ſame number of doſes were repeated. But a ſevere fit followed. As ſhe had a pain in her ſide, the bark was given up.

EXPER. II. May 17. Peter Taylor, 21, has had a double tertian for three weeks. Had been once bled, and taken two vomits. I ordered a doſe of the tinctura rhei amara. 20th, As the fit was expected at 3 P. M. he began to take a drachm of the bark at 9 A. M. which was repeated every hour.

As he threw up the three firſt doſes, the quantity was diminiſhed to half a drachm every hour, which produced no vomiting. Had a gentle fit.

EXPER. III. May 18. Katharine Bremner, 20, had a tertian for three weeks. She took a vomit and the infuſum amarum. 31ſt, Her fit, which, as to time, was variable, being expected about 9 A. M. ſhe began at 6 A. M. to take a drachm of the bark every hour; and took four doſes. The fit came on at 2 P. M. June 2d, Began at 5 A. M. and took ſix ſuch doſes. But the fit came on at 1 P. M. and ſhe had another on the 4th.

EXPER. IV. May 11, 1770. James Thomſon, 25, had been ill of an intermittent, ſometimes tertian, ſometimes quotidian, for five weeks. 19th, As he expected his fit at 4 P. M. I directed two drachms of bark to be taken at 2, and the ſame doſe at 3 P. M. Some minutes after, the fit came on; but was ſlighter. On the 21ſt he had a ſevere fit. 23d, he took two drachms for four times every half hour, beginning at 1 P. M. but the fit came on half an hour after 2, immediately after the laſt doſe. 29th, After having had ſeveral fits, he began the bark to day, before

the

the ſweat ended, and took two drachms for a doſe, each half hour, till he had uſed an ounce. After this he had no return.

EXPER. V. June 6. Peter M'Queen, 25, had a tertian of two weeks ſtanding. I preſcribed inf. amar. cum dupl. ſenn. unc. iv. which operated eight times. 7th, Had his fit at 4 A. M. When the ſweat was nearly ended at 1 P. M. he took a drachm of bark, which was repeated every hour for four times. Had no more fits.

EXPER. VI. June 12. Andrew Wilſon, 19, had a tertian for a fortnight. He was ordered a vomit and infuſ. amar. cum ſenn. 17th, Laſt night the fit came on; and, when going off at 3 A. M. he took two drachms of bark; and at 5 A. M. another doſe. 19th, Had a ſlight coldneſs laſt night, but no fit.

EXPER. VII. Feb. 12, 1776. Murdoch M'Leod, 30, had been ill during a week of a quotidian, which attacked him at 4 P. M. After a vomit and purgative, on the 16th he took a drachm of the bark at 12; which was repeated at 1, 2, and 3 P. M. After this he had one fit, but no more.

EXPER. VIII. March 22. Donald Coutts, 21, had had a quotidian for three weeks, and had taken a vomit and a purge. His fit came on at 8 P. M. April 1, and he took a drachm of bark at 4, at 5, at 6, and at 7 P. M. The fit acceded at 8 P. M. as uſual. Between 9 and 10, he was ſeized with a vomiting, during which he threw up his powders. No fit on the 2d, but a ſevere one on the 3d. After this he took the bark at proper intervals during the intermiſſion, and the ague was cured.

EXPER. IX. Feb. 27. Iſabel Sutherland, 36, was ſeized with a tertian three weeks ago. She took two vomits and a purge. March 8, the fit came on this morning at 8 A. M. When it was over, ſhe took a drachm of bark, at 4, 5, 6, and 7 P. M. She miſſed the fit at the uſual time, but uſed more bark for ſecurity.

EXPER. X. March 23. Henrietta Sutherland, 16, for a quotidian ague, took a vomit and ſome rhubarb. April 2, ſeized with her fit at 8 A. M. At 2 P. M. when the ſweat was going off, ſhe began to take a drachm of bark, and repeated it every hour for four times. 3d, Had no cold fit, but

a little

a little of the hot. 4th, Complained of a pain in her ſide, for which ſhe was bled; but ſhe had no more paroxyſms.

EXPER. XI. March 10, 1774. Iſabel Cummin, 16, ill of a quotidian, after a vomit and phyſic, on the 15th took four doſes of bark, of a drachm each, after the fit. Next day, a ſlight fit appeared, after which the ſame number of doſes were repeated. Still the fits returned, though gentle. 25th, Was ordered the ſame number of doſes for four hours before the fit. After three doſes, the fit came on. 27th, Took three doſes, of two drachms each, before the fit, but threw them up during the fit, which ſtill attacked her. She ſwallowed the ſame quantity, in ſix doſes, after the next fit, which ſtopped the paroxyſms for ſeveral days; but the ague was not completely cured till the powder of the Rad. Serpent. Virg. was joined to the bark.

EXPER. XII. Nov. 23, 1778. Elizabeth M'Kenzie, 25, in a quotidian, took, every hour, a drachm of the bark for four times, before the fit. After this, ſhe had two returns, which were ſlighter than uſual.

The bark was repeated in the ſame manner; and ſhe had no more return.

EXPER. XIII. Nov. 26. David Stewart, 36, taken ill in the Fens of Lincolnſhire, had, for ſeveral months, laboured under an ague, ſometimes of a tertian, ſometimes of a quotidian form. He was ordered four doſes of the bark, as above, to be taken every hour before the fit. But he took only three doſes, as his fit came on before the fourth was taken. After this, his fits ſtill continued. After the ſecond, he took three doſes, of a drachm each, as ſoon as the ſweat was over. This ſtopped the return of the fits for ſome time.

EXPER. XIV. Jan. 23, 1779. John Grant, 35, had firſt a tertian, then a quotidian. He took a drachm of the bark, four times, before the paroxyſm. He had one fit as uſual. But the ſubſequent were ſlighter, and without the cold ſtage: but more bark was neceſſary to compleat the cure.

From theſe experiments, we may conclude,

1. That the bark is more efficacious in ſtopping the paroxyſms of intermittents, and curing the diſeaſe, when given at the

end

end of a fit, or at forty hours diſtance from the ſucceeding fit, than two, three, or four hours before it. 1*ſt*, In Exper. I. II. III. VII. VIII. XII. XIII. XIV. it was given juſt before the expected fit; but in none of thoſe caſes was the fit prevented. But, in Exper. V. VI. IX. X. XIII. when given after the fit, it always ſucceeded. In ſix of the former experiments, half an ounce was given, which was alſo the quantity uſed in the latter. In the remaining two, not above half the quantity was given. 2*dly*, Though the argument in favour of giving the medicine immediately after the fit appears ſtrong, ſtill ſome doubt may remain, as it may be ſaid, that, had the bark been given in the former caſes after the fit, it would likewiſe have failed; and, in the latter, if given before the fit, it would have ſucceeded. To render, therefore, an experiment of this nature entirely deciſive, it muſt be made on the ſame patient. With this view, I made the IV. XI. and XIII. experiments. In the XI. the ague was obſtinate, and yielded only when other medicines were joined with the bark. But, even in that, the bark, after the

the fit, ſucceeded better than before the fit, as by this means the paroxyſms were ſtopped for ſome days. But, in Exper. IV. and XIII. the queſtion is clearly decided. We ſee in the former, firſt half an ounce, then a whole ounce given, before the fit, without ſucceſs. After waiting till ſome fits were over, that no effects might be attributed to the firſt exhibition, an ounce was given after the fit, and the next was ſtopped. In the latter, the experiment is equally deciſive. No room for doubting now remains. Hence, the ſame quantity of bark, of which half an ounce was generally uſed, will, when taken towards the end of the ſweat, cure an intermittent; but will not, if given from one to four hours before the cold ſtage.

2. That bark given a few hours before the fit, ſeems to add to its ſeverity. In Exper. VIII. and XI. vomiting was excited; but in none of theſe caſes, where it was given after the fit, was this effect produced. Hence it is probable, that the other ſymptoms, had we remained to obſerve them with the patients, would have been likewiſe exaſperated. It muſt have

the

the ſame effect, almoſt, as when given during the fit. As bark, in powder, lies long in the ſtomach, eſpecially of one affected by an approaching fit, much of it muſt remain during the whole paroxyſm, and muſt augment the ſpaſm, increaſe the fever, and leſſen the ſweating.

3. That, as bark, when given at a greater diſtance from the fit, becomes more ſucceſsful, it follows, that ſome conſiderable time is required for its operation. In Exper. VII. XII. and XIV. when given before the fit, it did not ſtop the immediate, but the ſucceeding paroxyſm. This effect is generally ſeen in giving bark during the whole interval; it ſtops the ſecond, though not the firſt fit. Does it not require at leaſt two or three days, in every caſe in which it is given, before all its good effects are produced? This holds in the typhus nervoſus*, typhus putridus†, dyſpepſia, and gangraene. Were it to act on the ſtomach alone, it would ſtill require ſome time to be digeſted, and to impregnate the

* Febris lenta vel Nervoſa. Princ. Medic.

† Febris Maligna, Putrida vel Petechealis. Princ. Medic.

the gaſtric fluids before it could have any effect on that organ.

4. That the length of time before its effects appear, makes it probable that its operation is not on the ſtomach, or on its nerves, alone, but that it enters the vaſcular ſyſtem, and there exerts its chief qualities. In thirty or forty hours, it has time ſufficient for producing theſe. Its ſucceſs in curing diſeaſes, when applied to the ſkin by a bath or veſt, ſhows that the topical action on the ſtomach is not neceſſary. If it act moſtly on the nervous ſyſtem, as appears probable, though we cannot exclude its action as an aſtringent on the muſcular fibres, conſidered as inanimate ſolids, it muſt find a much greater field, and greater ſenſibility in the vaſcular ſyſtem, than in the primae viae.

5. That there appears to be no difference in the effects of the bark given after the fit, whether the ague be quotidian or tertian; and that fifteen or ſixteen hours are a ſufficient time to enable the bark to operate. The diſtinctions, therefore, ſo often mentioned in the ſchools and by writers, appear not to be of much practical uſe, as

the

the different kinds ſo often alternate; which ſhows, that the cauſe of theſe different appearances of intermittents is not owing to different miaſmata, but perhaps, to ſome more changeable circumſtances of the patient.

SECT. II.

Experiments upon ſome remedies uſed in the Typhus Nervoſus.

Inflammatory diſeaſes, in general, have much diminiſhed, and thoſe of an oppoſite nature have much increaſed, in the preſent age. The former, deſcribed ſo often by Sydenham, are hardly to be met with at preſent in London. In Edinburgh, a pure ſynocha is ſeldom ſeen, even among the commonalty. The low fever, or typhus nervoſus, is by much the moſt frequent amongſt them; and, what may ſeem more ſingular, is confined, as appears by all the caſes in my report-books, to the age reckoned commonly moſt ſubject to inflammatory diſeaſes, namely, to that between 18 and 30 years. This can never be attributed to the increaſed force of infection,

as our greater attention to cleanlineſs muſt diminiſh that cauſe, and it is only in few that we can trace any infection; but to the more debile ſtate of our bodies, which the preſent habits of living have induced. I call this diſeaſe the typhus nervoſus, in contradiſtinction to the typhus putridus, or petechialis; which two diſeaſes, I think, ought to be kept diſtinct, as they appear to me to differ with regard to the places where they are found, the degree of infection which they communicate, the conſtitutions which they attack, the ſymptoms attending them, and the remedies uſed.

The catarrhal and low fevers are the moſt common in the clinical ward; and I have had many of both kinds epidemic, that is to ſay, eight or nine patients ſimilarly affected. This was the caſe in the years 1773, 74, and 76, when the low fever was common. In the other years, the diſeaſe was only ſporadic. To deſcribe theſe conſtitutions, or their differences, would be uſeleſs, as the diſeaſe is ſo well known, and varies ſo little. Any ſmall variety that appears, ariſes from the ſtate of

the ſtomach, whether it is affected with nauſea and vomiting, or not; of the inteſtines, whether bound, which they are generally in the beginning, or looſe, which they are generally at the end; or of the ſkin, whether dry or moiſt. In moſt of the other ſymptoms, one typhus is very ſimilar to another. The effects of medicine, accurately ſettled, in this diſeaſe, are of much more moment.

Bleeding has been, for a long while, condemned by authors. But ſweating was fully as pernicious, as it was more conſtantly preſcribed here, and univerſally practiſed ſome years ago, till experience pointed out its bad effects; and it is at preſent equally ſet aſide with bleeding and purging. Wine is now allowed to be the principal remedy, the good effects of which are already well eſtabliſhed. Our deſign is, therefore, chiefly to aſcertain the value of ſome other remedies.

CORTEX PERUVIANUS.

The bark is recommended, and uſed in all fevers of this kind. But no author has told

told us, that it may do hurt, as well as good, or in what ſituation it may be given with the greateſt advantage.

EXPER. I. June 6, 1770. Margaret Baxter, 21, and at that time a wet nurſe, in the twelfth day of the fever, complained of difficulty of breathing, ſighing, ſlight dry cough, and gentle looſeneſs, pulſe 110 and weak. She was ordered a vomit and rhubarb. 14th, pulſe 104, ſome ſediment in the urine. Tongue moiſt. Partial moiſture on her ſkin. Great debility. Cap. P. Cort. Peruv. drach. ſs. 3tia quaq. hor. 15th, p. 108, Heat greater. Thirſt and difficult breathing. 16th, pulſe 112. Slept little. Skin hot. Slight delirium. Urine without ſediment for theſe two days. Tongue dry. Looſeneſs returned. The bark was then given up, as it evidently did harm. She continued much the ſame way for five days, with clear urine; and then the fever went off by degrees.

EXPER. II. Dec. 29. 1774. David Brown, 20, was in the ſeventh day of the fever, in which he had head-ach, ſlight cough, and a pain under the xiphoid cartilage. Urine high coloured, with a thick cloud,

and

and made with difficulty. Gentle delirium during two hours of the preceding evening; pulſe 120, and weak. Cap. mixt. Cort. Per. unc. i. 5ta quaq. hor. which doſe contained a drachm of bark triturated with water. On the 8th, pulſe 102, in the morning; pulſe 110, in the evening. On the 9th, pulſe 108, and moiſture on his arms. Lay in a comatoſe ſtate, and had a gentle delirium each night ſince he began the bark. 10th, pulſe 94, and a general moiſture. 11th, pulſe 87, and much ſweat, which ſmelled ſtrong. Notwithſtanding the coma and delirium, which were common ſymptoms, at this time, I incline to think that the bark had good effects, as the ſkin was moiſt after it. For, when it does hurt, the ſkin becomes dry, and the breathing worſe. But, that it carried off the fever, I cannot aſſert.

EXPER. III. December 5th, Suſannah Wharton, 21, affected with typhus for ſeven days, took for ſome time a ſolution of tartar emetic. On 13th day of the fever, with a pulſe at 92, took P. Cort. Peruv. drach. ſs 4ta quaq. hor. 14th, pulſe 80, head-

ach better 15th all the ſymptoms gone, and her water had a plentiful ſediment.

EXPER. IV. January 2, 1775. Ann Gunn, 24, was ill of a typhus, with a dry tongue, ſome ſweating, difficult breathing, ſingultus at times, turbid urine, and nocturnal delirium. Pulſe from 120, to 130. On the twelfth day of the fever, when the pulſe was 108, and weak, and ſlight ſubſultus tendinum, ſhe took a drachm of bark in mixture, every fifth hour. 13th, pulſe 128, delirious during the night, and hoarſeneſs. But tongue moiſt, and ſubſultus tendinum better. 14th, pulſe 130, ſkin dry, and heat greater. 15th, pulſe 104, a natural ſtool, and ſome appetite. 16th, pulſe 110, ſweats much, and three ſtools. 17th, pulſe 100, and no complaints. Here the ſymptoms ſeem rather to have increaſed the ſecond and third day after the exhibition of the bark, as the heat, dryneſs of ſkin, hoarſeneſs, and delirium, came on; and were not fully compenſated by a moiſter tongue, or leſs ſubſultus tendinum. On the 4th, ſhe was remarkably better; which change, either might be owing to the natural criſis of the fever, or to the bark, as, about that time,

time, its effects might be ſuppoſed to be moſt powerful.

From theſe four caſes, bark appears to be ſometimes hurtful, ſometimes uſeful, in the typhus, according to circumſtances. With regard to theſe, authors are not explicit. They ſay that it is of uſe when the nerves are affected, the pulſe flat, and there is ſighing. But that is ſaying no more, than that the bark in general is good in the typhus. The firſt caſe ſhows, that it is not proper in difficulty of breathing. This obſervation I have made in other caſes; and it is one of the moſt frequent bad effects of bark to increaſe ſuch a ſymptom. When there is general ſymptomatic ſweating, they recommend it; and I agree with them. I have always found it uſeful when there is a tremor, which is a frequent ſymptom. We may be almoſt aſſured of ſucceſs, when there is little or no drought. The effects of bark are, in moſt points, ſimilar to thoſe of wine. There are few diſeaſes in which they are not equally uſeful, or equally hurtful. They differ in this, that the effects of bark ap-

pear much later, and laſt much longer, than thoſe of wine.

TINCTURA CANTHARIDUM.

Hillary, in his treatiſe on the diſeaſes of Barbadoes, recommends the tincture of cantharides, given to the quantity of twenty drops twice a day, in ſome wine-whey, as an uſeful remedy in the typhus. This was ſufficient to induce me to give it a trial, eſpecially as none, ſo far as I know, had yet been made by any other. The certainty that cantharides were abſorbed by the ſkin from bliſters, and the probability that ſome ſhare of their good effects, in this diſeaſe, might be owing to this abſorption, were a further incitement.

Exper. V. June 29, 1770. John Johnſton, 24, has had a typhus for fourteen days, with vertigo, ſighing, ſlight diarrhoea, frequent ſweats; pulſe 108, and weak. On the 16th, after having taken for two days the ſolution of emetic tartar, he began, when his pulſe was 100, to take twenty drops of the tinct. canth. in ſix ounces of wine-whey; and it was repeated twice a day. On the 17th, pulſe 79, no complaint,

complaint, except vertigo. A ſweat appeared yeſterday ſoon after he took his medicine. 18th, Fever gone; ſo the tincture was given up. An alteration ſo ſudden, after taking this medicine, leaves ſome doubt, whether or not this ſalutary change was owing to it.

EXPER. IV. Aug. 28. Janet Craig, 25, had been affected with a typhus for three weeks. She had taken ſome doſes of tart. emet. which had vomited, opened her body, and ſweated her. On the 23d day of the fever, when the pulſe was 100, ℞ tinct. canth. gtt. x. mucil. g. Arab. aq. font. āā unc. ſs. M. cap. ter in die. 24th, pulſe 100, no difficulty of paſſing urine. Slept better. ℞ tinct. canth. gtt. xv. muc. g. Arab. aq. font. āā unc. i. M. fiat hauſt. cap. ter in die. 25th, pulſe 90, thirſt diminiſhed; tongue moiſt; leſs confuſion of head. 26th, pulſe 80, and ſtronger; head-ach better. 27th, Fever gone. Here the cantharides appear, without doubt, to have been attended with good effects.

EXPER. VII. April 7, 1774. Margaret Salmon, 18, had been ill of a typhus for five days. She had a vomit, bliſter, and

the julapium ſalinum. On the 12th day of the fever, with ſighing, head-ach, and pulſe 118, ℞ tinct. canth. gtt. xx. aq. menth. cinnam. ſ. v. āā. unc. ſs. M. fiat hauſt. cap. hor. ſom. & rept. mane. 12th, pulſe 96, head-ach eaſier; urine much increaſed. 14th, pulſe 110, tongue natural, and no drought. As ſhe only complained then of cough, the medicine was left off. Here it appears to have done ſervice.

Exper. VIII. Dec. 18. John Finlay, 22, in the eighth day of typhus, with his pulſe 110, and weak, head-ach, vertigo, and purging from emetic tartar which he had taken the day before. ℞ tinct. canth. gtt. xv. muc. g. Arab. aq. cinn. ſ. v. āā. unc. ſs. M. fiat hauſt. cap. ter in die, ſuperbibendo decoct. hord. unc. vi. 9th, pulſe 110, fuller and ſtronger. Head-ach and vertigo. Slept better. Each draught produced a ſenſation of heat in his ſtomach. 10th, pulſe 102, urine of a ſtraw colour, with light and plentiful cloud. Head a little confuſed. ℞ tinct. canth. gtt. xx. muc. g. Arab. unc. i. aq. font. unc. ii. aq. cinn. unc. ſs. M. fiat hauſt. cap. ut antea. Took an opiate at bed-time. 11th, pulſe 102, thinks himſelf

himſelf better, applic. epiſp. tempor. 12th, pulſe 96, head eaſier; ſlept better; urine plentiful, of a ſtraw colour, and without cloud. 13th, pulſe 100, complains only of weakneſs, tremor, and a ſlight pain of his breaſt. His medicine was therefore changed for wine and caſtor, which recovered him. The medicine was of ſome uſe here.

EXPER. IX. Dec. 4, 1778. Elizabeth Henley, 15, on the 11th day of a typhus, and when her pulſe was 110, got tinct. canth. gtt. xv. &c. every eighth hour. 12th, pulſe 108, has taken three doſes, and felt always a ſenſation of heat in her ſtomach after the draught. Some delirium; two looſe ſtools, with gripes; ſlept ſome; augeatur tinct. canth. ad gtt. xx. 13th, pulſe 106, urine clear. 14th, pulſe 82, and ſtronger; feels ſome difficulty in making her water; no complaints; omittatur hauſt.

From theſe experiments, the tinct. canth. to twenty drops thrice a day, appears to be a very innocent remedy, and ſcarcely to produce any ſenſible effects on the body, except a ſenſation of heat in the ſtomach. I gave a third more in the day than Hillary uſed, ſo joined the mucilage of gum arabic to it. By means of the mucilage, I have been

enabled to give thirty-five drops four times a day, in cutaneous diſeaſes, and fifty, four times a day, in a diabetes, without any ſenſible effects on the urinary paſſages, or elſewhere, except ſome gripes and ſlight ſtrangury, which alſo happened in Exper. IX.

As, in moſt of the preceding caſes, the utility of this medicine is certain, I think, that, in the others, therefore, we ought to aſcribe the merit to itſelf more than to the critical time in which it was given. More experiments, however, will be required to aſcertain its value.

Theſe effects in the vaſcular ſyſtem, when exhibited internally, are much leſs ſenſible than thoſe occaſioned by abſorption from bliſters, which ſo often produce ſtrangury, and heat of urine. Is not this a clear proof of a greater quantity entering the habit, or a greater acrimony of the cantharides, when they are introduced by the ſkin, than when given in the preceding method? and hence ought we not reaſonably to expect more powerful internal effects than by the former way, from the greater quantity abſorbed from bliſters? If cantharides, taken by the mouth, produce

ſuch

ſuch effects in the vaſcular ſyſtem, much greater ſhould be expected when they enter by the ſkin.

BLISTERS.

There is no remedy, in fevers, that has ſtood its ground ſo long as bliſters. Authors recommend them in the typhus ſo ſtrongly, that they order a ſucceſſion of them; and the patient ſuffers much certain pain, want of ſleep, ſtrangury, and uneaſineſs, for the ſake of advantages, which he, ſo far as is yet eſtabliſhed, may have but a ſmall chance of reaping. The patient ought to expect advantage at leaſt in proportion to what he ſuffers. Let us view a few caſes, where bliſters, alone, at the time, were uſed.

EXPER. X. May 22, 1769. James Innes, 21, was ſeized with fever on the 19th, and complained of head-ach, thirſt, ſighing, &c. pulſe 88, and weak. On the 8th day of the fever, after a vomit and the ſaline mixture, pulſe 76, but all the other ſymptoms worſe, a bliſter was applied to his back, and he took a little wine. 9th, pulſe 72, in

the

the morning, and 66 at night. 10th, pulſe 80, head-ach gone. Suſpecting ſome compreſſion on the brain from ſuch a ſlow pulſe attending a fever, I applied a bliſter to each temple. 11th, Delirious all night; a bliſter applied behind each ear. 12th, Great weakneſs, deliquium, and ſighing; ordered a ſolution of camphor. 13th, pulſe 108, frequent nauſea; bliſters were applied to each arm. 14th, pulſe 108, ſlept none, and delirious all night. 15th, pulſe 128, and intermitting. Died. When opened, nothing appeared uncommon in the abdominal viſcera. The left lobe of the lungs, towards the inferior part, was a little inflamed. Nothing was found preternatural in the brain, except about two ounces of ſerum in the ventricles, which may be conſidered as the cauſe of the ſlow pulſe. Here the bliſters, in ſucceſſion, did no good.

EXPER. XI. Feb. 16, 1714. Archibald M'Bane, 27, convaleſcent, after a fever, was ſeized, on the 11th, with typhus. He took a vomit, ſolution of emetic tartar, &c. On the 15th day of fever, when his pulſe was 120, a bliſter was applied betwixt his ſhoulders. 16th, pulſe 100, ſlept better.

17th,

17th, pulſe 96. 18th, pulſe 116. The fever continued for ſix or ſeven days. Here the bliſter diminiſhed the fever for two days; but it recurred, though not in the ſame degree as before.

EXPER. XII. Feb. 7. Katherine Smith, 35, in a typhus, had bliſters applied to her back, her arms, and her ſide, without any ſucceſs; and ſhe died on the 17th day of the fever. The veſſels of the brain were found much diſtended with blood. About a pound of fluid was found in the thorax. The lungs were very livid, eſpecially the left lobe, in which was found a ſmall quantity of pus. The inteſtines adhered in ſeveral places to the peritoneum, the liver was larger than natural, and in the left kidney there was alſo a little pus.

EXPER. XIII. April 8. Margaret M'Farlane, 24, had a typhus, for five days, with thirſt, vertigo, head-ach, white and moiſt tongue, no ſleep, pulſe at 90. On the 8th day of the fever, pulſe 68, head-ach and nauſea. Had a cold fit laſt night, after which ſhe fell into a profuſe ſweat. Took a vomit, and had bliſters applied behind her ears. 11th, pulſe 60, ſhe was ſeized with another

ther cold fit, and ſweating after it, during which ſhe died. On opening the head, we found the veſſels of the brain uncommonly diſtended with blood. Both lobes of the lungs were much inflamed; and the left adhered firmly to the pleura and diaphragm, was diminiſhed in its ſize, and its ſubſtance much ſoftened. Was the preternatural ſlow pulſe owing to a compreſſion from the plethoric ſtate of the veſſels of the brain? It is probable.

EXPER. XIV. Anne Gunn, Exper. IV. had a bliſter applied to her back on the 8th day of the fever, and one to each arm on the 9th. On the 10th, her pulſe was conſiderably quicker, her tongue was drier, and ſhe was more delirious.

EXPER. XV. Dec. 4, 1776. Iſabel Ferguſon, 30, caught a typhus by infection. On the 8th day, a looſeneſs ſeized her, and the fever diminiſhed. On the 9th day, a bliſter was applied to her back. On the 10th, the ſymptoms were eaſier, but her pulſe was much the ſame. On the 11th, the fever abated a little, and ſhe continued to recover. But, whether this change happened

pened from the diarrhoea, or bliſter, appeared to be uncertain.

EXPER. XVI. Jan. 16, 1777. James Ramſay, 24, was ill of a typhus, with delirium, ſubſultus tendinum, alternate hot and cold fits, &c. On the 12th day of the fever, when the pulſe was 132, a bliſter was applied to his back. During the night he was leſs delirious, ſlept ſome, and was at times diſtinct. In the morning, his pulſe was 115; in the evening, 144. He died on the 16th, and, when opened, nothing preternatural was found in the head, thorax, or abdomen.

Theſe few caſes have been ſelected, as in them the bliſters were more unconnected with other remedies. Many more could have been produced to the ſame effect, where other medicines accompanied them; but then our concluſions would not have been ſo certain.

From the above experiments, we ſee what ſmall advantage ariſes from bliſters uſed in the typhus. Out of ſeven caſes, that in Exp. XI. was relieved for two days; and the advantage in Exp. XV. was probably owing to another cauſe. The other five were not ſenſibly relieved. In ſome of them,

them, the pulſe rather quickened after the application. Bliſtering ſeemed to have no good effect in any of the epidemic low fevers of the years 73, 74, or 76, in the clinical ward; ſo that I, from that time, almoſt gave over applying them. The advantages that reſult from them certainly do not counterbalance their diſadvantages. I have long found them to be of more uſe in topical inflammatory fevers, than in the typhus. The reaſon ſeems to be this. The ſtimulant power of bliſters laſts only for two or three hours during the pain, in which time the pulſe commonly becomes quicker. After this, their antiſpaſmodic effects take place; and the pulſe, when they are ſucceſsful, becomes ſlower. It is to this latter effect that topical inflammations owe their cure. But it can be of little uſe in the typhus, as every ſymptom in its progreſs points out extreme preternatural relaxation, rather than preternatural conſtriction, or ſpaſm. They can have no advantage, therefore, in this fever, but from their ſtimulant power, which laſts too ſhort a time to be of much ſervice.

Among

Among the many diſadvantages of bliſters, ſtrangury is none of the leaſt. I find it eaſy, however, to prevent this effect; ſo that I ſeldom or never obſerve a ſtrangury following a bliſter. Dr. Greenfield was the firſt who, in the beginning of this century, diſcovered, that camphor had a power of correcting this effect of cantharides. Some, however, have doubted this quality. I tried, many years ago, camphor rubbed on bliſters, found it to anſwer, and have always uſed it with the greateſt ſucceſs. I once removed, ſuddenly, a ſtrangury in a typhus, by rubbing camphorated oil on the ancles. Notwithſtanding the advantage which rubbing a little powdered camphor on the plaiſter has in preventing one of its uneaſy effects, yet I believe it is ſcarcely, if at all, uſed. More truſt is put in great quantities of emulſion, and the like, which often load the ſtomach too much, relax it, and increaſe the general debility.

Bliſters, therefore, appear to be of little uſe in curing the typhus; yet they are of the greateſt utility in relieving the ſevere headach, a troubleſome ſymptom which always

attends

attends it. Bliſters applied to the temples remove this ſymptom moſt ſucceſsfully, without directly producing any good effect on the fever; though they may indirectly, by removing one cauſe of watchfulneſs and weakneſs. To prove this by facts, would be to quote almoſt every low fever that has appeared in the clinical ward. I was led to this application, by obſerving, that the rind of a lemon, cut off thin, and the inſide applied to the temples, excites a redneſs, and cures a head-ach. I tried bliſters to the temples in a remitting fever, in Flanders, many years ago; and they ſucceeded beyond my expectation. I have continued the uſe of them ſince that time, have introduced the practice into the clinical ward, and uſed them in every typhus with the greateſt degree of certainty. This application has been much confirmed, though it did not take its riſe there. This mode of application has almoſt ſuperſeded the uſe of bliſters to the whole head, which have their inconveniencies.

The effects of theſe topical bliſters depend, 1. On their ſtimulus. The temples

are

are very ſenſible, as the patients complain much of the pain of bliſters applied there. It is near the part affected, and communicates directly with the nerves of the eyes. If the pain ariſes from the nervous ſyſtem alone, nothing is more proper than nervous counter-irritation to relieve it, as the nervous ſyſtem is but rarely capable of ſuffering two pains at once. In this way all rubefacients become antiſpaſmodics. 2. On the evacuation produced. The external and internal veſſels ariſe from the ſame ſource, often communicate through the cranium, and always by means of the arteria orbitalis. If, therefore, the head-ach ariſes from a plethoric ſtate of the brain, it muſt be cured by the depletion which follows. Hence this application, and a running kept up for ſeveral days, by iſſue-ointment, is the moſt ſucceſsful remedy in obſtinate opthalmias.

FOMENTATION OF THE LEGS.

This practice was firſt introduced, ſo far as I know, by the regimental ſurgeons of the army in Flanders, in the winter 1742-3,

and was much uſed at that time, by all of them with ſucceſs, in a typhus, which is deſcribed in the Medical Facts. Since that time it has become a common remedy here.

EXPER. XVII. Katharine Smith, Exp. XII. was fomented on the 9th day of the fever. Her pulſe, during it, became fuller, but not quicker. She ſweated after it; and her head-ach became eaſier.

EXPER. XVIII. Archibald M'Bane, Exp. XI. while his feet were fomenting, fell aſleep, and ſlept for eight hours. His pulſe quickened a little during the operation.

EXPER. XIX. John Finlay, Exp. VIII. after fomentation, his pulſe was fuller and ſtronger.

EXPER. XX. December 4, 1774. Gavin Kerr, 20, was fomented on the 9th day of his fever, when his pulſe was 104, with inflamed eyes, tremors, head-ach, thirſt. Next day, his pulſe was 90; and, though the fever continued, his pulſe never returned to its former quickneſs.

EXPER. XXI. Iſabel Ferguſon, Exp. XV. when the fomentation was uſed on the ſeventh day of the fever, and afterwards continued, ſeemed to be eaſed by it.

EXPER. XXII. March 23, 1778. William Nileſon, 21, uſed the fomentation in the 10th day of a typhus. His pulſe was 90 when the fomentation was begun; but in half an hour it was 98, ſtronger, and more regular. Though continued twice a day, it produced no viſible effects.

EXPER. XXIII. Eliz. Henley, Exp. IX. on the 7th day of a typhus, while her pulſe was 126, had her legs fomented. Half an hour after, her pulſe was 136, but fuller. An hour after it was 126, and ſtill continued fuller. She ſlept better the following night, and her head-ach was eaſier.

The practice of fomenting the legs appears, from the above caſes, to be uſeful, as every application that makes the pulſe ſtronger muſt be. It ſeems to diſpoſe much to ſleep. It diſpoſes, alſo, to a moiſture of the ſkin, which will be uſeful when it is dry; but which may be hurtful, in a diſpoſition to ſymptomatic ſweating. It muſt be of greateſt uſe when the tongue is dry.

Its effects, however, muſt depend much on the degree of warmth. If the heat is within 100 degrees of Fahrenheit's thermo-

meter, it will ſtimulate leſs, and relax more. If above that degree, it will ſtimulate more, and relax leſs. The fomentation was tried when the heat was not above that of the human body, and the pulſe became fuller, not quicker. But the heat ſhould be greater, that it may, when applied in the typhus, ſtimulate more, as the chief uſe of it is to raiſe the pulſe.

CAMPHIRE.

Camphire has been recommended and uſed in the typhus.

EXPER. XXIV. July 30, 1769. Duncan Clerk, 13, with head-ach, purging, nocturnal delirium, on the 12th day of the fever, had the camphire in this form; ℞ camph. ſcrup. i. diſſolv. in muc. gum. Arab. unc. i. add. aq. cinn. ſ. v. unc. i. aq. font. unc. ii. M. cap. unc. i. 4ta quaq. hor. When he took the medicine, his pulſe was 112, and the heat of his body 102 deg. Ten minutes after, pulſe 104, and heat the ſame. Twenty minutes after, pulſe 108, and heat the ſame. On the 14th, his pulſe was 84; but I attributed the change more to ſome wine he had taken, than to the camphire.

EXPER. XXV. James Innes, Exp. IX. was ordered ſeven grains of the camphire, diſſolved as above, thrice a day. His pulſe next day was quicker, and he was delirious during the night, till he died.

EXPER. XXVI. Katharine Smith, Exp. XII. had five grains of camphire every five hours; but the quickneſs of her pulſe, and the other ſymptoms increaſed, till ſhe died.

EXPER. XXVII. Dec. 20, 1774. Mary Wilkie, 20, obſtructed for ſix months, began to take an ounce of the ſolution of camphire every fifth hour, on the fifth day of the fever, when her pulſe was 120. Next day, pulſe 92, and head-ach eaſier. When her pulſe was 94, ſhe got the above doſe. Ten minutes after, her pulſe was 86. Half an hour after, it was 90. The exhibition of this medicine was attended with a gentle moiſture, and ſeemed to procure reſt.

From two of theſe caſes it would appear, that camphire is of uſe in the typhus. But I am ſtill dubious, with regard to the ſalutary effects of camphire in this diſeaſe, and muſt reſerve the deciſion for further experiments, as the alteration in Exper. XXIV. might have ariſen from the wine;

and, in Exper. XXVII. from the peculiar nature of the fever, which, perhaps, took its riſe, or was connected with amenorhoea. I am the more inclined to this opinion from private practice, in which I have never ſeen any good effects from camphire in ſuch fevers; ſometimes, perhaps, bad effects. No ſedatives, probably, can be good in low fevers, as they muſt all act by diminiſhing the nervous influence; and camphire appears, from the preceding experiments, to be of this claſs. As it is generally agreed, that camphire is good in inflammatory diſeaſes, little advantage, therefore, can be expected from it, in thoſe of an oppoſite nature, the anti-inflammatory.

ANTIMONIALS; EMETIC TARTAR, and JAMES's POWDER compared.

The preparations of antimony, after having been long baniſhed from the apothecaries ſhops, and from the preſcriptions of phyſicians in ſome countries, under the ſevereſt penalties, have at laſt become one of the moſt certain

certain antifebrile medicines which we know. Different preparations of it have, in their turn, ſhared the public favour, ſuch as the pulvis Carthuſianorum, vinum benedictum, tartarum emeticum, and emeticum mitius Boerhaavii, which, with no material alteration, is now called James's powder. Theſe two laſt are, at preſent, moſt uſed here; the former by phyſicians, the latter by thoſe not of the medical line. A candid compariſon of them, from the experience of many years, will, I hope, be agreeable to both. I have always made uſe of James's powder, ſold in the ſhops; but this laſt winter I ſometimes uſed that made in the Infirmary; and I was not ſenſible of any difference in their effects. The ſolution of emetic tartar mentioned here, conſiſts of two grains, diſſolved in ſix ounces of water. I confine my experiments at preſent to the typhus fever alone.

EXPER. XXVIII. May 13, 1770. Thomas Bailie, 32, had been ill of a typhus for ſome days, attended with head-ach, ſweating at times, tremor, and dyſpnoea. Took a vomit. 14th, pulſe 104, cap. ſol. tart. emet. unc. i. 3tia quaq. hor. 16th, pulſe 78,

tremor leſs. No nauſea or ſweating; but body looſe and griped. 18th, Great looſneſs. 19th, pulſe 100, purging gone. Solution has no ſenſible effect. 21ſt, pulſe ſtill quick, and head-ach. The ſolution was exchanged for bark and wine.

EXPER. XXIX. Joan Herrin, 18, on the 9th day of her fever, began the ſolution, unc. i. 3tia quaq. hor. It produced a nauſea at firſt, and the ſymptoms abated a little on the 11th day. It afterwards purged her, and it was continued to the 16th without giving any relief.

EXPER. XXX. Archibald M'Bane, Exper. XI. in a typhus for ſeven days, took for ſix nights, at bed-time, tart. emet. gr. i. laud. liq. gtt. xx. aq. font. unc. ſs. M. fiat hauſt. without any other effect than that of ſleeping better. About the 20th day of his fever, he began with James's powder, five grains every fourth hour. The doſe was increaſed next day to eight grains, and the day after to ten grains, without any viſible effects, but that of procuring better reſt. This medicine was continued for five days, after which the fever went off.

EXPER.

EXPER. XXXI. March 31, 1774. William Wightman, 23, was ſeized on the 24th. Complained of vertigo, thirſt, weakneſs, nauſea, and he had a delirium during the night. He had been bled, and afterwards loſt much blood by the opening of the orifice. On the 9th day of the fever, pulſe 110, tongue white and moiſt, and no complaint; took ſol. tart. emet. unc. i. 4ta quaq. hor. 10th, pulſe 130, and weak. After the firſt doſe, he fell into a ſweat, which ſtill continues. Body bound; urine paſſed inſenſibly. A water clyſter was ordered, which operated well, and two ounces of wine were given every four hours. 11th, pulſe 168, ſweating ſtill continues; ſays he is very well. Died. On opening the head, the veſſels on the ſurface of the brain were found to be much diſtended with blood. When the medullary part of the brain was cut into, there appeared numerous ſmall dots of blood; and the chorid plexus was ſomewhat inflamed. The inteſtines were much diſtended with faeces, which in the rectum were hardened. The liver and ſpleen were of a livid colour, but of their natural ſize and firmneſs. The left kidney was inflamed

and

and enlarged. Here is an inſtance of a mortal typhus without a complaint, of which I have ſeen many. Such caſes are the moſt dangerous, as they ſhow the ſenſibility to be much diminiſhed. Here the emetic tartar did, at leaſt, no good.

EXPER. XXXII. March 16. Francis Brooks, 16, was ſeized on the 13th with a typhus, attended with weakneſs, vertigo, cold, hot, and ſweating fits, head-ach, noiſe in his ears, and looſeneſs. Took a vomit. 6th day of fever, pulſe 112, he was ordered James's powder, fifteen grains at bed-time. It was increaſed next night to a ſcruple, and it was continued for ſome nights. He had a moiſture each night, and ſlept better. The fever gradually decreaſed, and went off about the 14th. The good effects of the powder were ſenſible here.

EXPER. XXXIII. March 5. Euphemia Pettie, 22, who had not menſtruated for 12 months, was taken ill on the 3d. Was bled, and vomited. 6th day of fever, pulſe 100, ſoft and weak. ℞ Pulv. Jacob. gr. v. conſ. roſ. q. ſ. fiat bol. cap. 6ta quaq. hor. It had no ſenſible effect. Next day the doſe was increaſed to eight grains, which

which produced nauſea, and opened the body. 8th, pulſe 90, the doſe was increaſed to twelve grains. 9th, pulſe 86, ſame effects. 10th, pulſe 76; her remaining complaints now ſeemed to ariſe from the obſtruction of her menſes.

EXPER. XXXIV. Gavin Kerr, Exper. XX. on the 10th day of fever, pulſe 90, complained of want of ſleep, body bound. ℞ Pulv. Jacob. gr. viii. &c. & rep. 8va quaq. hor. 11th, pulſe 97. After his doſe, laſt night vomited and had two motions; but he lay quieter, and ſlept better. The medicine had no effect this day. 12th, pulſe 86, the bolus produced nauſea, ſweat, and opened the body. Slept well, and all ſymptoms eaſier. The doſe was increaſed to twelve grains, which continued to produce the ſame effects. He had a criſis on the 14th.

EXPER. XXXV. Dec. 5, 1774. William M'Pherſon, 20, in the 5th day of a typhus, and his pulſe 116, took ſolut. tart. emet. unc. i. 3tia quaq. hor. for two days, without any ſenſible effects. 7th, pulſe 116, and feeble. Delirious. Tongue dry. Was ordered Pulv. Jacob. gr. viii. &c. h. ſ. & mane.

mane. Nor did that produce any ſenſible effects. Delirium continued each night. Was ordered a bliſter, fomentation to his legs, and wine. His medicine was increaſed to twelve grains every eight hours. 11th, pulſe 116, two looſe ſtools. Slept better. 12th, pulſe 110, purging ſevere, which made me ſtop the boluſſes. But at night his pulſe was 96, and fuller. 16th, Fever went off. It is not eaſy to ſay, whether the purging was owing to the diſeaſe, or James's powder. I am apt to attribute it to the former, as it is not a common effect of that medicine. But, from whatever cauſe the looſeneſs aroſe, it ſeems to have done ſervice.

EXPER. XXXVI. John Finlay, Exper. VIII. on the 6th day of the fever, pulſe 110, and weak, took the ſol. tart. emet. It vomited and purged him, without any good effect; ſo the medicine was ſtopped.

EXPER. XXXVII. Dec. 3. Agnes Anderſon, 24, in the 16th day of fever, when her pulſe was 100, took the ſol. tart. emet. unc. i. 5ta quaq. hor. It produced nauſea, vomiting, looſeneſs, and moiſture of her ſkin. 17th, pulſe 102, and weak, Cap. Pulv. Jacob. gr. viii. &c. 8va quaq. hor.

18th,

18th, pulſe 110, had after each bolus, a nauſea, vomiting, purging, and general moiſture. Slept ſome. 19th, pulſe 86, no complaints.

EXPER. XXXVIII. James Ramſay, Exper. XVI. on the 6th day of the fever, began with Pulv. Jacob. gr. v. bis in die. The doſe was increaſed to eight grains. It had no ſenſible effects; ſo we had recourſe to other medicines. On the 12th, the ſol. tart. emet. was tried; but it was attended with no viſible or ſucceſsful effects; and he died.

EXPER. XXXIX. Jan. 24, 1777. Robert Finlay, 20, on the 11th day of the fever, pulſe 108, took ſol. tart. emet. unc. i. 3tia quaq. hor. 13th, pulſe 108, the medicine had no ſenſible effects; cap. unc. i. ſs. pro doſ. 14th, pulſe 92, nauſea and moiſture. Recovered.

EXPER. XL. Dec. 11, 1776. Elizabeth M'Kain, 22, on the 11th day of fever, with bound belly, and her pulſe 108, took Pulv. Jacob. in noſocomio, parat. gr. v. opii gr. ſs. &c. morning and evening. 12th, pulſe 80, no nauſea after the bolus laſt evening, but ſweated all night. Had a nauſea after the bolus this morning. Recovered.

EXPER.

EXPER. XLI. William Nielſon, Exper. XXI. on the 8th day of the fever, with his body rather looſe, and pulſe 84, took ſol. tart. emet. unc. i. 3tia quaq. hor. 9th, pulſe 96, and weak. Vomited after every doſe; body looſe; delirious during the night; ſlept none. The ſolution was given up. 11th, pulſe 100; comatoſe. Cap. ſtatim Pulv. Jacob. gr. viii. conſ. roſ. q. ſ. ut fiat bol. & rep. h. ſ. 12th, pulſe 94, more quiet; no nauſea, purging, nor ſweating. Rep. bol. ex Pulv. Jacob. gr. xii. 8va quaq. hor. 13th, P. 94, takes the boluſes regularly, and ſleeps much, and calmly. 14th, pulſe 90, leſs delirious. Sleeps much Boluſes have no ſenſible effect. The fever after this diſappeared. Here the good effects of James's powder were ſuperior to the emetic tartar, as they were leſs evacuative, and more quieting.

EXPER. XLII. March 21, 1778. William Pearſe, 20, has had a typhus for four days; pulſe 106; frequent vomiting. Cap. ſol. tart. emet. unc. i. 3tia quaq. hor. Vomitted after the two firſt doſes; ſlept till towards morning, at which time a ſweat broke out, and pulſe 75. At night,

pulſe

pulſe 62, and the fever went off; but on the 7th day from the firſt attack it returned again, continued for three days, and then diſappeared.

EXPER. XLIII. Jan. 27, 1779. George Dickſon, 20, on the 10th day of a fever, in which his body was rather looſe, took the ſolut. tart. emet. It vomited and increaſed the purging to ſuch a degree, that it was given up. On the 15th day, he began James's powder, five grains thrice a day, which was gradually increaſed the following days to twelve grains. Theſe doſes brought a moiſture on his ſkin, and at laſt vomited, but did not purge him. He recovered.

EXPER. XLIV. Dec. 22, 1778. John Leucher, 18, on the 8th day of the fever, took the ſolution of the emetic tartar. It occaſioned naufea and purging. On the 10th, got Pulv. Jacob. gr. v. 8va quaq. hor. On the 11th, he had eight grains, and the day after, twelve. Theſe quantities excited a moiſture and ſweat only, but no ſickneſs or purging; for his body was rather bound. On the 13th, the fever went off.

From

From theſe facts, the following concluſions ariſe:

1. In thirteen caſes of typhus, where emetic tartar was given, two were cured by it, one relieved, and ten received no benefit. That is, indeed, but a ſmall proportion of the ſucceſsful to the unſucceſsful caſes, and ſhows, that it is not ſo beneficial in this fever as in other fevers. In eleven, where James's powder was given, ten were cured, and one died; which is a very great proportion of caſes where it ſucceeded, to thoſe where it did not ſucceed, and ſhows great febrifuge powers in that medicine. On comparing, therefore, the two medicines, James's powder appears to be a much more valuable remedy in the typhus than the emetic tartar.

2. The effects, eſpecially the evacuative, of emetic tartar, are ſtronger than thoſe of James's powder. The emetic tartar generally vomits, often purges much, produces a moiſture of the ſkin, and ſometimes ſweat. It purged in ſeven of the thirteen caſes. But the effects of James's powder are much gentler. In two caſes only it vomited; in two only it purged,

purged, and generally was attended with a gentle moiſture. It commonly brings on a calmer ſtate, and ſleep, which the emetic tartar ſeldom does. It often relieves the head-ach. Theſe different operations are not to be attributed to a greater proportional doſe of emetic tartar than of James's powder; for, in three of the caſes, the former had no obſervable effects; and a third of a grain, after many trials, is the quantity I can moſt rely on for ſenſibly affecting the ſtomach. Beſides, the doſes of James's powder, exhibited in the preceding experiments, are much greater than what are generally given here.

3. From the effects of the two medicines, as above ſtated, we may, perhaps, ſee the reaſon, why emetic tartar is not ſo ſucceſsful in the typhus, as in the ſynochus *; nor ſo uſeful in the former as James's powder. That fever, eſpecially in its progreſs, becomes worſe after evacuation. I have ſeen purgatives, clyſters, and gentle ſweating, hurtful in it. It can be no ſurpriſe, then, that a medicine, ſuch as

* Genus Compoſitum ex fibre Inflammatoria & Nervoſa. Vid. Princ. Medic. De Morb. febril. Part 2d, ſect. 4.

the emetic tartar, which evacuates by the inteſtines and ſkin ſo powerfully, ſhould do no good in the typhus, or rather that it ſhould do harm. This is ſtrongly verified by the above caſes. In Exper. XXXI. where it ſweated moſt, the patient died. In none of the caſes where it purged, did it do ſervice. In Exper. XXIX. while it produced a nauſea, it relieved. After the purging came on, the fever increaſed. I am always obliged to mix laudanum with it, or to give it up when it purges. In the only two caſes where it was of uſe, it excited nauſea and moiſture in one, and gentle vomiting and moiſture in the other. Emetic tartar acts more on the inteſtinal canal; James's powder more on the ſkin. If the cure depended on puking, as in many diſorders of the lungs, inteſtinal canal, and others; if we wiſhed to make a ſudden and violent ſtimulus on all the organs of evacuation, we ſhould uſe the emetic tartar. But in delirium, want of ſleep, looſe or irritable bowels, James's powder ought to be preferred.

4. As to the quantity of emetic tartar to be given for a doſe, it may be either

one-fourth or one-third of a grain. The former often produced no effect on the ſtomach, ſo that one-third was the ſtanding doſe. In giving James's powder, I chuſe to begin with five or ſix grains in the form of a bolus, thrice a day, as leſs than that quantity can hardly produce any viſible effect, and more may operate too ſtrongly. The doſe may be augmented afterwards gradually, until it ſenſibly affects the ſtomach, inteſtines, or ſkin, which it does generally when ten or twelve grains are given. I have often increaſed the doſe to a ſcruple in inflammatory caſes; but we can rarely go ſo far in the typhus, as, in that diſeaſe, the inteſtines are more irritable.

5. As to the time of continuing both, we have no rule to determine us, but their effects. If theſe are good, the medicine muſt be continued till the fever go off, or a criſis appear. In two caſes the emetic tartar was continued for eight days. Its effects are generally manifeſted ſooner. If it be attended with any evacuative operation, that length of time may debilitate too much, and ſuſpend the uſe of other medi-

cines; but we may allow a longer time to James's powder, as its effects are more gentle, and as it ſeems, from theſe caſes, to require longer time.

6. It is difficult to ſettle the mode of operation of theſe two medicines. But we can, from the above facts, ſay negatively, that they do not cure by evacuation; as, in two of theſe caſes where James's powder ſucceeded, the patients only ſlept better, without any ſenſibly increaſed evacuation. The ſame thing occurs every day in the uſe of emetic tartar. We can ſay further, that even the evacuations produced do not ariſe from the nauſea; becauſe, in the above caſes, an evacuation by the inteſtines and the ſkin was often produced, without any preceding nauſea. This likewiſe frequently occurs. Do they act by a general ſtimulus? This is probable, from their general evacuative powers; from their being hurtful in the ſpaſmodic ſtate of fevers; from their being moſt ſucceſsful when the exacerbation of fever is over; and from being moſt uſeful, when the pulſe is juſt below the natural ſtandard, with regard to ſtrength.

OPIATES.

In inflammatory fevers we are, perhaps, juſtly afraid of preſcribing opiates, as in theſe they diminiſh all the excretions, increaſe the heat and drought, and too much deaden thoſe ſenſations of pain, which muſt often guide our operations. But, whether ſuch conſiderations can take place in the anti-inflammatory fevers or typhus, may be very much doubted. Such medicines as repreſs exceſſive evacuations, and ſuch as are, in other caſes, heating and ſtimulating, generally are uſeful in it. The experiment is, at leaſt, worth the making. I have often given opiates, with advantage, when the body in ſuch fevers is looſe; and they are often joined to emetic tartar, to leſſen its purgative, and increaſe its ſudorific quality, while the opiate is rendered, at the ſame time, leſs ſedative. But the preſent experiments go no farther, than endeavouring to alleviate a troubleſome ſymptom of the typhus, want of ſleep, which, if they do, they are of no ſmall utility.

EXPER. XLV. John Finlay, Exp. VIII. in the ſeventh day of the fever, had ſlept none ſince he was attacked with it. ℞ Laud. liq. gtt. xx, aq. cinn. aq. font. aa unc. ſs. M. cap. h. ſ. An hour after he took it, his pulſe became fuller and ſtronger. Slept better. Pulſe the ſame next day. He took the opiate for five nights, and always ſlept better for it.

EXPER. XLVI. David Brown, Exp. II. in the ſeventh day of his fever, during which he had ſlept none, was ordered the ſame draught at bed-time. He ſlept ſome, It was repeated with advantage.

EXPER. XLVII. Ann Gunn, Exp. III. in the eighth day of the fever, having ſlept none the night before, from vomiting and purging, excited by a ſmall doſe of the antimonial wine, had the ſame draught at bed-time. She ſlept none. Sweated much, and had a ſlight degree of ſingultus. But her pulſe was leſs quick. It was not repeated, becauſe ſhe began James's powder.

EXPER. XLVIII. William Nileſon, Exper. XXII. body looſe, ſlept none, and delirious during the night, got laud. liq. gtt. xxv. &c. h. ſ. Slept frequently during

during the night, and much during the forenoon. Looſeneſs gone. His pulſe leſs frequent. The caſtor was ſubſtituted for it, which did not ſucceed ſo well.

EXPER. XLIX. William Pierce, Exp. XLII. with purging, cough, and want of ſleep, was ordered on the ninth day of the fever laud. liq. gtt. xx. &c. h. ſ. Slept ſome, and was a little delirious.

EXPER. L. November 23, 1778. Ann Riddle, 23, in the eighth day of a typhus, attended with head-ach, cough, and want of ſleep, when her pulſe was 140, got laud. liq. gtt. xx. &c. h. ſ. She ſlept better, and thought herſelf much refreſhed. Her pulſe next day was 126. The draught was continued, and the fever went off.

EXPER. LI. Elizabeth Henley, Exp. IX. in the eighth day, got laud. liq. gtt. xx. &c. h. ſ. and ſhe ſlept for three hours, and her pulſe became calmer after it.

EXPER. LII. December 17. Ann M'Queen, 20, in the ſeventh day of the fever, pulſe 118, got laud. liq. gtt. xx. &c. h. ſ. Slept well and calm, having been delirious the preceding night. Next day pulſe 82.

It appears, therefore, that opiates procure reſt in the typhus, without any diſadvantages attending their uſe. I cannot attribute the delirium in Exper. XLIX. to them, as it often takes place the firſt night, when the patients begin to ſleep naturally, after the fever is gone. It would rather appear, from Exp. XLV. that they acted as cordials in the manner that wine does. Perhaps the doſes were too ſmall to produce that effect, as ſuch caſes require greater quantities of wine, which in ſmall doſes is not attended in the typhus with its uſual effects. Perhaps the above quantities were not even ſufficient for procuring ſleep.

Want of ſleep is a diſtreſſing ſymptom. Beſides, it debilitates much, and adds to the weakneſs natural to this fever. Whatever gives ſleep, muſt obviate theſe effects. The powers of nature muſt be ſtronger after opiates; more eſpecially, if they act as a cordial, which I imagine they do. There is no fear of inducing any inflammatory ſtate in ſuch caſes. If we could, perhaps it would be of advantage. I can ſee no reaſon, therefore, why we ſhould not procure ſleep artificially. Opium is more

more to be depended on than camphire, caſtor, or ſal ſedativum Hombergii, which laſt I have often tried, and never but once found it ſucceed; and, beſides, it ſeems too antiphlogiſtic for ſuch a ſtate. Opium is, therefore, alone to be truſted. It becomes more neceſſary and more uſeful than the above ſedatives, where looſeneſs or cough prevail.

PETASITES.

I had heard that the petaſites, or butter-bur, had been uſed with ſucceſs, in Muſcovy, in a malignant fever, which prevailed there ſome time ago, and I have been deſirous ever ſince to try its effects in the typhus; but could not till lately procure it.

EXPER. LIII. November 23, 1778. Ann Riddle, took it from the eighth to the eleventh day of the typhus, beginning with half a drachm, and increaſing the doſe to a drachm, thrice a day. But it was attended with no ſucceſs. It produced no ſenſible effects; and the pulſe was not altered by this laſt quantity. The fever diminiſhed during its uſe, which could hardly be attributed to the effect of the medicine.

From

From that trial I have no opinion of its powers, and ſhall ſcarcely try it again. Beſides, from its taſte, we cannot have a high opinion of its effects, which ſeem very innocent.

CONCLUSION.

The preceding experiments, we hope, will not be found altogether without utility. It is of great uſe in medicine, to ſhow, that what we truſt to does not deſerve our confidence. Camphire is of this kind; and I am much miſtaken, if it is not even hurtful in the typhus. Bliſters do not merit the truſt we have ſo long placed in them. If emetic tartar is found leſs uſeful than what it is at preſent thought, it is the reſult of accurate experiment. James's powder appears worthy of the confidence the public has ſo long, but without proper foundation, placed in it. The effects of the bark depend much on the ſituation in which it is given. Fomentation of the legs is advantageous, though, I believe, more uſed here than elſewhere. The tincture of cantharides has met with a fair trial,

trial, and has been found worthy of further attention. Opiates, in the typhus, to procure reſt, and bliſters to the temples, to alleviate the head-ach, are not, ſo far as I know, recommended by any author*. The former have taken their riſe in the clinical ward; the latter have been much confirmed in it. We, therefore, hope, that ſome new light has been thrown on the remedies uſed in the cure of the typhus nervoſus.

SECT. III.

Pleuritis Spuria.

There prevailed in the clinical ward, during the month of December 1776, a fever, with which ſeveral of the patients had been affected about the end of November, and which demands our attention, as it was the epidemic of the ſeaſon, as epidemics are rare here, and as it differed widely in the cure from the pleuriſy, though, in many reſpects, it much reſembled

* After theſe obſervations were written, I was told that Dr. Cullen and the late Dr. Gregory uſed ſometimes to give opiates in the typhus, in the clinical ward. But I am ſtill ignorant of the reſult of their experiments.

bled this diſeaſe. I called it the Pleuritis Spuria, as it was attended with a ſevere pain in the ſide. The true pleuriſy is a very rare diſeaſe here, although many fevers are attended with pleuritic pains.

Hippocrates has mentioned this fever. Galen deſcribed it well: 'Breathing not 'ſo ſeverely affected; fever leſs acute than 'in the true pleuriſy; no hardneſs of 'pulſe; no expectoration; no cough;' in which laſt ſymptom our preſent diſeaſe differs from that deſcribed by him. Sydenham often mentions it, and cautions us 'againſt bleeding, as in the true pleuriſy.' Hoffman, in the chapter on pulmonary affections, gives a good account of it. It has not lately been taken notice of. If Sauvages means to deſcribe it under Pleurodyne, he miſtakes when he ſays, 'fine 'pyrexia acuta,' as this diſeaſe was attended with much fever.

The patients were generally ſeized with ſhivering, which was ſoon ſucceeded by heat. But ſome of them had no coldneſs, and were firſt attacked by heat and moiſture of the ſkin. So far this diſeaſe, in its approach, reſembled the typhus, where, often,

often, we can diſcover no cold fit; we had a quartan, at the ſame time, that had no cold ſtage. It is not, therefore, a conſtant and neceſſary prelude to every fever.

They were ſoon afterwards attacked with a ſevere pain in the ſide, generally amongſt the falſe ribs, which was increaſed on inſpiration, and made the breathing difficult. The part was not ſwelled or diſcoloured; but it was ſore upon preſſure, and they could not lie on that ſide. One of the patients could not lie with eaſe on either ſide; but of the two he rather choſe to lie on the affected ſide, which in all the patients was the left. The pain in the true pleuriſy is thought oftener to attack the right than the left ſide; the truth of which obſervation may be doubted, as not only the preſent diſeaſe is ſtrongly againſt it, but in the preceding ſpring we had an epidemic catarrhal fever very ſimilar to this; where, in all the patients, the pain was ſituated in the left ſide. Theſe pains ſeemed to be ſeated amongſt the intercoſtals, and perioſteum of the ribs, perhaps even in the pleura, as the pains were deſcribed to be ſo ſuperficial, and as they were worſe when preſſed,

preſſed, or when the patient lay on that ſide. Theſe pains are commonly looked on by authors to be of the rheumatic kind. This opinion may appear more probable, on obſerving, that the rheumatiſm was frequent at that time, and that one of our patients had pains in the ſcapula and elbow. But ſtill there is much room for doubt. The part was neither diſcoloured nor ſwelled; the pains did not flit like thoſe of the rheumatiſm; the pulſe was not ſtrong, nor the blood inflammatory. Was it of the catarrhal kind, from acrid ſerous fluids determined to theſe parts? This opinion is not improbable. As this was the leading ſymptom, from its violence and duration, it properly gave name to the diſeaſe.

They always had a painful dry cough; ſometimes a little viſcid expectoration attended it. This ſymptom ariſes, I believe, generally from a determination to the lungs of acrid fluids, generated in the body, or retained in it from a ſtoppage of perſpiration, of which near a third part goes off always by the lungs; or from acrid particles introduced into the habit,

as

as in epidemic catarrhs, morbilli, variolae, &c. But may it not ariſe likewiſe from irritation of the intercoſtal muſcles? This is probable, as the motion of the intercoſtals ſeems to ariſe from an irritation of the lungs, and as emollient ointment rubbed on the breaſt eaſes a cough.

They were harraſſed with conſtant ſevere head-ach, which, with the cough, kept them from ſleeping. As no inflammation of the eyes, violent delirium, or ſtrong pulſe, accompanied the head-ach, there was not the leaſt ſuſpicion that it aroſe from any inflammation of the brain, or its membranes, which is too often ſuppoſed to be the cauſe of this ſyſtem. It ariſes, probably, in this diſeaſe, from nervous irritation; becauſe ſmells, mephitic air, and nervous poiſons, excite it.

A moiſture of the ſkin generally attended them through the diſeaſe; and they often felt themſelves cold even while ſweating. Sometimes they had alternate ſweating and ſhivering. This ſhows laxity and debility.

The tongue was clean, moiſt, and a little white: The thirſt was not great: The appetite was not ſo bad as might have been expected.

expected. They often complained of nauſea. The ſtate of the body was very various; in moſt, it was natural; but in one, it was bound, and in another, looſe.

The pulſe was from 90 to 136 in a minute, always ſoft and weak; in ſome, it could hardly be felt. There was little opportunity, from this ſtate of the pulſe, to examine the blood. A very little was taken from one, which appeared natural. As the pulſe was weak, and no inflammatory ſymptoms, this was probably the ſtate of the blood in all.

From theſe ſymptoms, the character of this diſeaſe appears to be, 'A painful ſtitch, 'conſtant dry cough, ſevere head-ach, dif-'ficult breathing, quick and weak pulſe.'

It was not attended with any danger; and generally terminated on the 6th or 7th day, without any evident criſis. In one of the women, it did not terminate until the 11th. But a defect of the menſtrual flux, which was the caſe with her, probably made her worſe. The typhus, which prevailed at this time, ended ſooner than uſual; often on the 7th; and it never exceeded the 12th day.

It is natural to enquire, from what cauſe an epidemic fever ariſes. None accuſed contagion. I ſcarcely think it aroſe from miaſmata in the air, as it would, in that caſe, have been more epidemic in the city, and attacked thoſe of higher ſtation, which it did not do. It ſeemed rather to ariſe from the application of cold to the body, under certain circumſtances. The half of the patients aſſigned that as the cauſe of their fever. We muſt, then, ſearch for its origin in the ſenſible qualities of the air. There was, ſome time before this fever appeared, a froſt for ſeveral days. In this ſtate of the air, perſpiration is always great, as is proved from ſtatical experiments; becauſe it ſtrengthens the action of the heart and veſſels. To this ſucceeded very mild weather; the conſequence of which was a retention of the perſpirable matter. Beſides, mild air makes the body more ſuſceptible of cold. Hence aroſe an immediate ſpaſmodic affection, on the ſudden application of cold, to which, perhaps, they had been all expoſed; and many had coriza and cough at that time. We had an epidemic catarrhal fever here in the end

of the year 1774, and another in the beginning of 1776, which evidently took their riſe from a thaw, after long froſt, and were attended, like this, with pleuritic pains; but they differed from it, in being very inflammatory.

In the cure of common diſeaſes, we are chiefly conducted by what has been obſerved to be uſeful or hurtful. But, in an uncommon diſeaſe, ſuch as this, that general rule fails. We have ſtill, however, ſome guides left; an obſervation of the occaſional cauſes which excite it, of its ſymptoms, and of its ſimilitude to ſome other well known diſtemper. We have obſerved, that mild weather prevailed when it appeared; that the ſymptoms inclined more to the typhus than ſynocha; that it went off without any remarkable evacuation; and that it had a conſiderable analogy to the preceding catarrhal fevers. Theſe conſiderations rendered the expediency of great evacuations dubious.

The firſt queſtion which naturally occurred was, Shall we bleed? In moſt attacks on the breaſt, attended with ſtitch, cough, and difficult breathing, bleeding is proper,

as

as the cough increaſes the determination to the lungs. On the other hand, the ſtitch appeared not inflammatory, the pulſe was weak, the ſkin moiſt, the debility great, and all authors who have treated of this diſeaſe diſſuaded from bleeding. As I am moſtly determined, in ſuch circumſtances, by the ſtrength of the pulſe, I was rather averſe to bleeding. But, as the pain was violent in one of the patients, a little blood was ordered to be taken from him. From his weakneſs, only three ounces came; nor did we obſerve any diſadvantage ariſing from having taken ſo little blood from him, and from omitting that evacuation in others. If bleeding had been uſed, perhaps the diſeaſe would have laſted longer, and the recovery have been more tedious.

Some of the patients had a nauſea which might be thought to have indicated emetics. But, from the remarkable cleanneſs of the tongue, from no bad taſte in the mouth, from no vomiting attending that ſymptom, I conſidered this ſymptom as rather ariſing from nervous irritation, the moſt common cauſe, than from a diſorder of the ſtomach; perhaps, from a ſympathy

with the breaſt, where irritation is often attended with vomiting; ſo that emetics were not ordered. Beſides, the pain of the ſide would ſcarcely have permitted their uſe. After the ſtitch went off, they were not indicated. Purging did not appear neceſſary. One of the patients had a looſeneſs during the illneſs; but it appeared rather ſymptomatical, than critical. Laxatives muſt make a derivation from the intercoſtal muſcles. I tried them in one. He took a doſe of the infuſum tamarindoſum; after which the pain of his ſide, and cough, were better; but the pulſe was 10 beats quicker in a minute. After the ſecond doſe, all his complaints were eaſier. But it was about the time of the criſis.

Sweating may ſeem to have been pointed out from the moiſture of the ſkin, and it appeared ſafe from the ſoftneſs of the pulſe. But, as I have ſo often ſeen it do hurt in ſimilar fevers, it was not preſcribed. As this fever appears now to have been of ſhort duration, ſweating might have ſhortened it yet more.

The diſeaſe ſcarcely ſeemed to be of that ſeverity as to require antimonials. The

patient who had it moſt ſeverely, took Pulv. Jacob. gr. v. opii. gr. ſs. for two nights, at bed-time. It occaſioned ſweating each night, but no ſleep.

Bliſters ſeemed of uſe in removing the fever; as, in two caſes where they were applied, the fever went off after their application. In all thoſe fevers of a catarrhal nature I find them of uſe.

As the diſeaſe was ſhort, and not attended with danger, the alleviation of the ſymptoms claimed moſt of our attention. There were four which harraſſed the patient much, the ſtitch, cough, head-ach, and want of ſleep.

The pleuritic pains were ſo ſevere, that they required medicine. Topical bleeding by leeches, and by cupping, were of ſome uſe. A very little blood taken from the neighbouring veſſels, by relaxing them moſt, eaſes the pain. But bliſters were ſtill more effectual, for, beſides the evacuation from the part, they excite pain and inflammation there, by which they powerfully relieve the parts firſt affected.

The want of ſleep is a diſtreſſing ſymptom, increaſes the general irritation, and

exhauſts the ſtrength. It is a never failing attendant on all catarrhal fevers. There ſeemed to be no objection againſt the exhibition of opiates. They were given, and found to promote ſleep. I once gave Tart. emet. gr. ſs. laud. liq. gtt. xx. at bed-time; but the patient paſſed a bad night.

For the cough, a mixture of the mucilage of gum Arabic was uſed, without any acid, in which ſtate it is more ſoftening, and corrective of acrimony. By too great attention to the palate, in mixing lemon juice with the mucilage, we hurt the qualities of this medicine. Bliſters to the back always relieved this complaint.

The head-ach was a ſevere ſymptom. Bliſters applied to the temples never failed to relieve it. They were as efficacious in this fever as in the typhus.

SECT. IV.

Febris Puerperalis.

Hippocrates has very well deſcribed this fever of lying-in-women. A diſtemper ſo fatal

fatal to them, met with little attention till of late, when the morbid body has been much inſpected. Though nearly uniform in its ſymptoms and appearances on diſſection; yet, perhaps, no diſeaſe is at preſent leſs underſtood. In the clinical ward we can ſeldom have ſuch patients. But, in ſpring 1774, while the lying-in-ward was purifying, two patients were ſent to us. As ſuch caſes are not very common, and as five died in the lying-in-ward, we ſhall give a particular account of thoſe two caſes.

Jean Reid and Margaret Myrtle were affected ſo much alike, that we ſhall treat of them together. But as the former had the ſymptoms moſt diſtinct, we ſhall chiefly deſcribe it, and mark what difference there was in the latter.

March 4, 1774. Reid, 23, delivered of her third child, was taken ill on the 2d day after delivery. February 21. Myrtle, 21, delivered of her firſt child, after a tedious labour of four days, attended with much flooding, was ſeized on the 12th day. Authors have remarked, that this diſeaſe comes on from the 2d to the 12th, which our caſes ſhew; and that the ſooner it ap-

pears, the more dangerous it becomes, which is likewiſe verified in our patients. Coldneſs and ſhivering attended the attack in both. Both were ſeized with head-ach in the beginning. This ſymptom preceded the complaints in the abdomen, in all that were affected with this fever in the lying-in-ward. Reid was not ſeized with nauſea and vomiting of bilious matter till the 3d day of the fever. Myrtle, from the firſt, had nauſea, and frequent efforts of vomiting, but threw up nothing. Reid was at firſt coſtive; but at laſt a diarrhoea came on, with faeces of a natural colour. But Myrtle had from the beginning a diarrhoea, attended with blood and teneſmus, which latter ſymptom continued long after the former left her. This diarrhoea is always ſymptomatic. It has been obſerved, that looſeneſs comes on when the vomiting ceaſes, which happened in Myrtle. This fact, with the quantity of bile which is evacuated both ways, makes it probable that the diarrhoea is owing to bile.

Reid complained, from the 1ſt day of pains in the ſtomach, and acroſs the belly

and

and loins; on the 2d, of pains in the lower part of the abdomen; on the 3d, of pain in the region of the uterus, and of ſwelling and fullneſs of the belly; on the 4th, the region of the uterus, eſpecially on the left ſide, was ſwelled, and ſore to the touch, and a pain was felt ſtretching down the thighs and legs; and on the laſt day ſhe had pains in the legs only. Myrtle had pains in the thorax, affecting her breathing, and in the ſtomach and belly, eſpecially when preſſed; ſo that ſhe could not lie ſo well on either ſide, as on her back. She complained of great pain in the thighs, eſpecially when ſhe drew up her legs. Even on a relapſe, the pain of her ſtomach and belly, which had gone off, recurred again with the fever, which ſeems to ſhow, that they do not ariſe from a fixed cauſe. The belly generally ſwells on the third and fourth day; and if it does not fall when the diarrhœa comes on, it is thought a mortal ſymptom, as the tumefaction muſt ariſe from air contained in the cavity of the abdomen, and not in that of the inteſtines.

In both there was great thirſt, with a white and moiſt tongue. Reid had a deep

crimſon

crimſon colour on her cheeks, which was alſo obſerved in moſt of thoſe who died in the lying-in-ward; but Myrtle had it not. This ſymptom is reckoned, eſpecially if attended with livid lips, and a wild countenance, a fatal ſign: and this caſe confirms the obſervation. Both had conſtant inclination to paſs urine, which they were unable to do. This ſymptom cannot be any diſtinguiſhing mark of this diſeaſe, as it ſo often follows difficult labour.

Reid's pulſe was from 130 to 146; and on the fifth day it was 160. Myrtle's pulſe was from 120 to 126, and on a relapſe it was 156; yet ſhe recovered. Dr. Leake fixes the quickneſs of the pulſe from 90 to 137. The former patient's pulſe was much above that degree. But this muſt depend much on the irritability of the body. In both, the pulſe was weak and ſoft. But this is not always the caſe, although it generally happens. I once found the pulſe, in this diſeaſe, ſo ſtrong, that it required two bleedings.

Reid had a dry burning heat of her ſkin; Myrtle had frequent cold fits, after which a dry heat came on, ſucceeded by ſweating.

ing. Theſe caſes prove the obſervation of authors to be true, that a dry is worſe than a moiſt ſkin. In both, there was a great degree of weakneſs; no ſleep, even when opiates were given; and a cough, which was very ſevere in Myrtle; but no pain, ſwelling, or ſecretion of milk in her breaſts. There is no wonder that a fever, attended by ſuch great evacuations, ſhould hinder that depoſition, which appears critical.

Reid had the lochia in ſmall quantity; and they ſtopped on the third day. Myrtle had alſo a ſtoppage of that diſcharge; but then her fever began on the 12th day after delivery. The lochia are not always ſuppreſſed, though the diſeaſe has been attributed to that cauſe. Of five in the lying-in-ward, in three there was no alteration; in the reſt only a little diminution of that diſcharge.

Reid had on many parts of her body ſmall red tumors under the ſkin, moveable and painful; and, on the laſt day, the back of her right hand was ſwelled and red. Theſe appearances were uncommon, and not mentioned by any author. Myrtle had a ſwelling, and ſevere pain in the left elbow-joint.

Theſe,

Theſe, perhaps, were attempts to ſome critical depoſition.

The criſis happens between the 5th and 11th day. Reid died on the 6th, on which day no pulſe was felt, breathing very quick, and tongue dry; and yet ſhe was diſtinct, had no pain, and no moiſture on her ſkin. All thoſe who died in the lying-in-ward, for ſeveral hours, and ſome for ſeveral days, preceding their death, became eaſy, felt no pain, and thought themſelves better; but the pulſe was quicker, and, as in ours, could not at laſt be felt; the face was flushed, and the breathing was laborious. Theſe ſymptoms ſhow no appearance of internal mortification, which is always attended by a general ſweat. When they recover, there is no perfect criſis. On the 10th and 11th days of the fever we found Myrtle much better. She recovered after this for three days; but, on getting out of bed, and combing her hair, ſhe relapſed, had delirium, head-ach, and a pulſe at 156. After ſhe began to recover, her viſion was not diſtinct, and the pupil was much dilated. Her menſes appeared a month after her delivery.

On

On examining the body, appearances are found as ſimilar as the ſymptoms. In Reid, the uterus was not inflamed, and not contracted, as it was found by Dr. Hulme. The os tincae was of a deep livid colour, but not mortified; and it had the ſame appearance in thoſe who died in the lying-in-ward. The left ovarium was indurated and covered with a whitiſh film, as is ſometimes ſeen on the ſurface of the lungs, or other viſcera after inflammation. The liver, eſpecially the poſterior part, was a little inflamed, and covered with the ſame film. The gall-bladder was much diſtended with bile. The cavity of the abdomen contained about two pounds of a fetid milky fluid, thicker than ſerum, with ſome blood, and curd-like matter, or filmy ſubſtances in it. In one of thoſe who died in the lying-in-ward, there was no fluid found; in another, it approached to a purulent ſtate; in the reſt, it was ſanious; Dr. Hulme mentions feotid air and pus; Dr. Leake, a purulent fluid. The inteſtines adhered to the peritoneum; and all the inteſtinal canal, eſpecially the ſmall inteſtines on the left ſide, were a little inflamed.

The

The inteſtines of all thoſe who died here at this time, had a ſimilar appearance. Juſſieu, in the Memoirs of the Academy of Sciences for the year 1746, Pouteau, Hulme in ſix diſſections, and Leake in many, obſerved this. The omentum was a little inflamed; but no ſuppuration was ſeen in it. Dr. Hulme ſays, that the inteſtines and omentum were inflamed and mortified; Dr. Leake, that the omentum was not only ſuppurated, but often conſumed. Nothing like this appeared in the others opened here, except a ſlight inflammation, eſpecially on that ſide next the inteſtines. There was found more fluid in the pericardium than ought naturally to have been; but no ſymptom ſeemed to ariſe from this, and the pulſe never intermitted.

Having related the facts, let us proceed to conſider the proximate cauſe, about which there have been many various opinions; but they may be all reduced to ſeven; ſtoppage of the lochia; inflammation of the uterus; tranſlation of milk; inflammation of the inteſtines and omentum; ſuppuration of the omentum, and puru-

purulent matter in the abdomen; infection; and a ſtate of the air favouring the production of an epidemic diſeaſe.

Hippocrates, and moſt authors, have attributed the puerperal fever to a ſuppreſſion of the lochia, having obſerved that evacuation was generally diminiſhed or ſtopped before, or during this fever. This opinion was the more natural, as they believed the lochia to be of an acrid nature. To this opinion, it may be objected, 1. That the lochia are not acrid, but pure blood, ſuch as circulates through the body, and runs out after the ſeparation of the placenta, whoſe abſorbing veſſels convey chyle or blood from the uterus. There is no proof of acrimony; and, although it exiſted, it could not excite fever ſo ſoon, or prove ſo mortal. 2. The lochia are often diminiſhed, when no fever ſucceeds. 3. The lochia often continue for two or three days after the fever has begun, as in Reid. In all the patients in the lying-in-ward, the lochia were little altered in quantity. 4. Myrtle's fever appeared on the 12th day after delivery, when the

the lochia muſt have contained but little blood; at leaſt, none acrid.

Moſt authors have attributed this diſeaſe to an inflammation of the uterus; and no wonder, as, in both our patients, pains were felt about that organ, and down the thighs. It was natural to think, that the fever aroſe from the part which ſeemed moſt affected. But ſtrong objections ariſe againſt this opinion. 1. This diſeaſe and the Hyſteritis differ in their ſymptoms, degree of danger, and cure. The pain in the hyſteritis is about the uterus and thighs only; but here it was about the ſtomach and inteſtines. In the former, the body is bound; in the latter, looſe. The former is leſs dangerous, and cured by bleeding and fomentations, by which the latter is not. 2. When it proved mortal, a gangrene would generally happen, and be diſcovered, which is not the caſe. 3. No inflammation of the uterus was found, on inſpection, by us, and ſeldom by any other perſon.

Baron Van Swieten has attributed it to a tranſlation of the milk. But, 1. The milk fever appears on the 3d or 4th day; but

but this fever, from the 2d to the 12th day after delivery. 2. If this was the cauſe the ſymptoms would be milder. 3. It would be often attended with plethora, which is ſeldom the caſe. 4. Wet-nurſes would be ſubject to it. 5. Many women, who have had little or no milk, have eſcaped; and many, who have had milk in ſufficient quantity, have been ſeized with this fever.

The moſt recent opinion is, that it ariſes from an inflammation of the inteſtines and omentum. This Dr. Hulme publiſhed as his diſcovery, although Dr. Leake afterwards claimed it, as firſt mentioned by him. But Pouteau, in the Melange de Chirurgie &c. deſcribed, in the year 1750, thoſe appearances, in a fever that attacked lying-in-women between the 5th and 15th day after delivery; in which, his diſſections ſhowed the omentum thickened, ſuppurated in ſeveral parts, and fixed to the inteſtines; the inteſtines inflamed, and adhering to one another; and the uterus ſwelled, inflamed, and often gangroned. Juſſieu may, perhaps, have a prior right, who deſcribed the inteſtines inflamed, in

the Memoirs of the Academy of Sciences for the year 1746. But, notwithſtanding theſe obſervations, it ſeems not owing to an inflammation of the inteſtines and omentum. Becauſe, 1. It muſt have been, in that caſe, attended with more pain and vomiting than our patients had. 2. In the inflammation of the inteſtines, the pulſe is always weak. But, I have more than once met with a ſtrong pulſe in a puerperal fever. 3. The inteſtines would have often been found mortified, as in an inflammation of theſe parts. But in none here was there ſuch an appearance. 4. What inflammation we ſaw, or was found in the others who died here, was not ſufficient to produce ſuch mortal ſymptoms. 5. Bleeding would be the chief remedy, which it is not, if this were the cauſe. 6. An inflammation cannot be the neceſſary conſequence, according to Dr. Hulme, of the preſſure by the foetus for ſo long a time; as, in that caſe, the pregnant would be equally ſubject to this diſeaſe; againſt which cauſe the author of Nature has certainly made ample proviſion. This inflammation, miſtaken for the cauſe, ſeems to be the effect

only

only of their ſituation and fever. The veſſels of theſe parts muſt always be more full after delivery, as the blood will ruſh into them after the compreſſion from the foetus is taken off. Beſides, the irritation of acrid matter in the abdomen, and acrid bile in the inteſtines, muſt inflame thoſe parts.

Dr. Leake, beſides inflammation, has ſuppoſed the putreſcency of a purulent fluid, from a ſuppuration of the omentum, which putrid fluid being abſorbed, in his opinion, produces a purulent fever, and increaſes the acrimony of the bile. But, 1. No ſuppuration of the omentum was diſcovered in Reid, or in the others opened here. 2. The omentum cannot inflame and ſuppurate in one day after delivery; yet women are ſeized on the 2d. 3. If abſorbed pus were the cauſe, the ſymptoms would be very different, and the diſeaſe ſlower in its progreſs, as in the purulent hectic from the phthiſis pulmonalis, empyema, &c. When ſuch fluid is collected, it muſt, however, add to the ſeverity of the ſymptoms.

It has been thought to ariſe from infection. I ſhall ſtate the arguments that occur to me on both ſides. Thoſe againſt it are, 1. When this fever prevails, thoſe delivered in their own houſes, who are not expoſed to infection, are nevertheleſs ſubject to this diſeaſe. But none in private houſes were, in Edinburgh, at that time, ſeized with it; and nurſes may always be ſuppoſed to carry it from one houſe to another. 2. Diſtreſs and anxiety of mind, alone, are found to occaſion it. 3. Other women delivered, and nurſes, though in the ſame ward, are often not infected, which ought generally to happen. 4. Patients, who aſſiſt as nurſes, are not infected before, but after delivery. 5. The time from delivery to the commencement of the fever, is often too ſhort for the effects of contagion to take place, as the fever ſometimes appears the 2d day.

The arguments in favour of infection are, 1. This fever has been long obſerved to prevail, in a greater degree, and to be more dangerous, in hoſpitals, than in private houſes. In 1746, at Paris none recovered. In the hoſpitals at London, during

January

January and February 1770, it was epidemic, and fatal to many. It is more fatal in ſmall hoſpitals than in large. In the firſt hoſpital at Mancheſter, which was ſmall, there died one of eighteen; but, in the preſent, which is larger, one only died out of twenty-four. 2. It has been remarked, that women delivered among wounded men do not recover. 3. From the regulations and method obſerved by Dr. Young, in the lying-in ward, very few deaths have happened ſince it was opened. Yet five died, in a ſhort ſpace, at this time. The midwife, and one of the nurſes, were ſeized with fevers, of a different kind indeed, as in theſe two there was no vomiting or purging; but ſtill their diſorder was ſuſpected to ariſe from infection. Reid had been in the houſe for three weeks, and lay in the room with one who died. 4. Dr. Young, after theſe deaths, thought it prudent to purify the wards, by ventilation, cleaning, white-waſhing, &c. after which this fever totally diſappeared, and has never ſince that time occurred there.

The laſt opinion, in favour of infection, appears to me to be the ſtrongeſt. Is

it of the eryſipelatous nature, as Pouteau thought? This appears probable, as, 1. This fever has much the appearance of the eryſipelas, from the ſenſation of internal heat, from the quickneſs of its courſe, &c. 2. Purgatives and camphire are found ſucceſsful in it, as in the eryſipelas. 3. Reid had ſmall tumors on the ſkin, which ſeemed to have ſome reſemblance to the eryſipelas, and were perhaps partial attempts of nature to produce it externally. 4. The eryſipelas, at that time, was epidemic in the Infirmary; and, beyond all doubt, infectious, though it was never before thought to be ſo. For the patients, in the beds next to thoſe who had the eryſipelas, and the nurſes attending them, were infected; and the ſurgeons of the hoſpital found, that an eryſipelas ſupervened on every inciſion.

That there may be ſome preceding epidemic ſtate of the air, favourable to the production of this fever, is not improbable; as, 1. It is thought to happen at certain periods. It is a vulgar obſervation, that it occurs once in ſeven years. 2. At certain times it rages equally in hoſpitals, and pri-

vate

vate houſes. What that ſtate of the air is, cannot eaſily be aſcertained. Dr. Leake thinks that moiſture is favourable to its production. But our ſeaſon was dry; and it appeared after a long froſt. It ſeems peculiar to certain ſituations, as Mr. Brydone ſays, that none die of it in Sicily; but many in the hills of Switzerland.

There are many circumſtances in the puerperal ſtate, that render the body, at that time, more ſuſceptible of miaſmata or infection. 1. Women are, in ſuch a ſituation, particularly anxious. Hence, the unmarried are moſt ſubject to this fever. 2. The nervous ſyſtem is in an irritable ſtate. Some parts have been much ſtretched, ſome much compreſſed, during the preceding months. The pain and irritation at delivery are ſo great, that it is often attended with delirium. Hence a ſpaſmodic ſtate is eaſily induced. 3. The body muſt be in a ſtrongly abſorbing ſtate after delivery, from the loſs of blood, and the removal of preſſure. 4. The fluids are in a more acrid ſtate than uſual. The body has been more bound, and therefore more acrid particles are abſorbed from the

primae viae. The conſtant quickneſs of pulſe muſt have generated a greater quantity of theſe acrid particles in the blood. All of thoſe formed by the foetus, as it performs no excretions, muſt return to the mother. 5. The bile becomes more acrid from the acrimony of the fluids, and more plentiful, from the blood, after delivery, ruſhing into the veſſels of the inteſtines. Hence the gall-bladder is always found full of bile. To its redundancy and acrimony, are probably owing nauſea, bilious vomiting, pains in the ſtomach and inteſtines, diarrhoea, and inflammation of thoſe parts. 6. The milk fever, which ſupervenes on the 3d or 4th day, muſt, in ſuch a ſtate of the body, excite a more dangerous fever. 7. The purulent putrid matter found in the abdomen helps to bring on a fever, which has much of the putrid appearance, as the pulſe is ſo low in general, and accompanied with ſuch weakneſs, ſo much bile, ſuch wildneſs in the countenance, &c. This putrid fluid does not ariſe from the ſuppuration of the omentum and inteſtines, as it was ſeen in our patients, where there was no ſuppuration, but from a ſtagnation

of

of fluids in theſe parts during the laſt weeks of pregnancy, by which there is more lymph, and perhaps of greater viſcidity, ſecreted, while abſorption is diminiſhed. The coagulable particles found in it ſhow its origin, and that it neither ariſes from ſuppuration, nor corruption of the viſcera. It is from this lymph that the preternatural coats of the uterus and liver are produced; and from this pus will be formed, and afterwards, during the fever, putrid matter. From theſe reaſons, a ſlighter cauſe in the air, or leſs contagion, muſt more powerfully affect women at this, than at any other time.

In the cure of this diſeaſe, authors, who have treated of it, are divided in their opinions.

1. As to bleeding, they differ widely; and each draws arguments for his practice from his own theory. Thoſe who affirm that an inflammation of the uterus and inteſtines is the cauſe of the diſeaſe, as Dr. Hulme and Dr. Leake, adviſe this evacuation, as rendering the circulation through the veſſels eaſier, diminiſhing the ſecretion of bile, obviating the plethoric habit of body

body in thoſe who do not give ſuck, and as being the only cure for that inflammation, which muſt precede ſuppuration. Thoſe, again, who accuſe putreſcency, or putrid bile, as Dr. White, are againſt bleeding; and ſay, that it diminiſhes the lochia, ſinks the pulſe, which is always weak, and forwards putreſcency. As practitioners are of ſuch different opinions, we may conclude, that bleeding is ſometimes good, ſometimes bad, according to the ſtate of the body, and the ſtrength of the pulſe; and that it never is a cure for the diſeaſe, but ſometimes, though ſeldom, it may be neceſſary to remove a plethora. Of this the following caſe is an inſtance. A young Lady, 26 years of age, of an inflammatory habit, and who was not bled during her pregnancy, next night after the delivery of her firſt child, was affected with feveriſh ſymptoms, which increaſed, though ſhe ſweated well, and diſcharged plentifully. On the 5th day after delivery, her pulſe was ſtrong; and nine ounces of blood were taken from her arm, which was ſizy. On the 6th, her ſkin was hot and dry; but the lochia went on well. At 4 P. M. ſhe

ſhe was ſeized with a violent feveriſh fit, and felt an uneaſy burning heat within her. Her pulſe, after this, was 140, and weak. She died the ſame night. As the pulſe in none of our patients was ſtrong, I therefore did not bleed; and in thoſe who were bled in the lying-in-ward, it was obſerved, that the pulſe ſunk after the bleeding, though the blood appeared to be ſizy.

2. Vomits, eſpecially of emetic tartar, are recommended, where there is much bile. When that is the caſe, it may be proper to aſſiſt Nature in her endeavour to relieve herſelf from that load. But when there is no redundancy of bile, I ſee no good purpoſe emetics can ſerve. It was not from any acrid matter in the ſtomach that Myrtle had ſuch vomiting. Reid had it not in the beginning; and that ſymptom in Myrtle had already ceaſed; ſo they were not vomited. If the vomiting is ſevere, Dr. White recommends colombo root. The ſaline draughts, in an effervescent ſtate, may alſo be uſed.

3. Dr. Denman firſt propoſed to cure this diſeaſe by laxatives and clyſters. He recommended the ſal catharticum amarum, caſtor

caſtor oil, or emetic tartar in the quantity of one fourth of a grain given frequently ſo as to purge. Dr. Hulme confirmed their uſe, as neceſſary to carry off the compreſſing faeces, to abate the inflammation, and to relieve the head-ach as the diarrhoea points them out and as they do not ſtop the lochia. Thoſe of an oppoſite opinion will ſay, that purgatives are not good in putrid fevers, and that the diarrhoea is ſymptomatic only, and does not relieve. But, as laxatives are recommended as the only effectual cure, we tried that method with the ſal cathart. amar. given to both patients every day, in ſuch doſes as to keep the body looſe. The ſalts had no effect on Reid the two firſt days, and I was obliged to order a clyſter on the ſecond, which operated twice. They had a gentle effect on the third and fourth; but the looſeneſs ſupervened on the fifth day of the fever, and on the next day ſhe died. Here they had no ſucceſs. Myrtle took three doſes of the ſal catharticum amarum, to the quantity of half an ounce each, which operated well, and ſhe recovered. So that, from theſe two caſes, it cannot yet be

be determined, whether purgatives are uſeful or not. It is obſerved, that, in this diſeaſe, the inteſtines are very irritable, as acids and neutral ſaline julaps bring on a looſeneſs. The contrary, however, appeared in Reid.

4. Opium was firſt uſed after delivery by Chamberlane, and firſt publiſhed by Deventer. Opiates are recommended by all authors, to diminiſh the irritable ſtate of the nerves, to give ſleep, and produce moiſture. But their good effects in this diſeaſe may be doubted, as far as we may judge from Reid's caſe, who took them every night at bed-time without any advantage; and they did not ſeem to contribute to Myrtle's recovery. In both inflammatory and putrid caſes, they muſt probably be hurtful.

5. Diaphoretics and gentle ſudorifics are recommended. Dr. Leake propoſes one third of a grain of emetic tartar, along with an opiate, to be given often; but this diaphoretic has been ſeldom uſed of late in this fever.

6. Pouteau found camphire to be ſucceſsful, when given, at firſt, to the quantity

tity of fifteen grains, and in ſmaller doſes afterwards, and often repeated. We gave ten grains of it to Myrtle after ſhe relapſed, when her pulſe was 150, and repeated it every eighth hour. After the two firſt doſes ſhe fell into a ſweat, and her pulſe next day was 100. After this ſhe recovered.

7. Dr. Hulme recommends bliſtering. Dr. Leake, on the contrary, ſays, that it is hurtful, as it inflames the tender uterus, and increaſes putrefaction. Bliſters were tried in the lying-in-ward. They relieved the local pains; but were of no uſe in the cure of the fever.

8. Dr. Gilchriſt recommended the warm bath, as he imagined that the diſeaſe was owing to an inflammation of the uterus. Dr. Leake ſays that it does not anſwer. We tried it with Reid, and ſhe was in the ſemicupium for a quarter of an hour. After it, ſhe ſlept four hours, and calmly, which was a good effect; but it produced no moiſture of her ſkin. It was uſed, perhaps, too late, as ſhe died next day.

Bark was tried, in clyſters, in the lying-in-ward; but without ſucceſs. Wine was found likewiſe to be of no uſe.

From

From the above caſes, and from all that has been yet written on this ſubject, we may, with great truth, conclude, that we know little of the theory, and ſtill leſs of the cure, of the puerperal fever; and that our chief aim, therefore, ſhould be to prevent this diſeaſe, which may probably be done by a proper ventilation of the rooms, by not allowing the curtains to be ſhut, by diſcharging all fire, and load of bed-cloths, by giving cool drink, by abſtaining from all animal food, unleſs in nervous habits; and by avoiding, after delivery, all ſtrait binding over the belly.

SECT. V.

Morbilli.

The meaſles were epidemic in Edinburgh in ſpring 1778; and though, in general, they were of a mild nature, yet I had, in the clinical ward, one mortal caſe, which, from the ſymptoms, the inefficacy of the remedies employed, and the diſſection, affords much inſtruction. Till lately the cure was little underſtood. I was puzzled 26 years ago, what to do in the moſt dangerous

gerous circumſtances of this diſeaſe; and the cure of it is ſtill capable of ſome improvement.

February 27, 1778. Elizabeth Craig, 24, of a habit rather full, and a wet nurſe, expoſed herſelf to the infection of the meaſles, on the 14th of February. She was ſeized on the 21ſt, the ſeventh or eighth day after this. I had before, in general, traced its appearance to the ſixth day from the infection; and, on that day, the ſymptoms were firſt obſerved in the inoculated. But they probably vary a day or two. In the ſmall-pox they are ſeized, generally, from the 7th to the 11th; ſo that in them the virus ſpreads ſomewhat ſlower in the habit, than in the meaſles.

She had complained, during the firſt ſtage or primary fever, of "alternate hot and cold fits; pain of her back and legs; head-ach; pain of her ſtomach, and vomiting; ſevere cough, which was moſtly dry, but ſometimes attended with a little viſcid expectoration; great watering of the eyes; ſwelling of face; bad taſte of her mouth; frequent ſneezing; and much thirſt."

What the effect of this ſtage is, whether critical, ſalutary, and to be encouraged; or whether aſſimilative, hurtful, and to be checked, is a queſtion not intirely ſpeculative. Many arguments may be adduced on both ſides. But, certainly, the practice founded on the latter opinion has ſucceeded beſt in the treatment of the ſmall-pox. It is not yet, however, aſcertained by experiment, whether extreme cold agrees with the meaſles, as with the ſmall-pox. Whatever checks the feveriſh ſtate in the latter, as keeping them much out of bed; expoſing them to the coldeſt air, and in the worſt weather; and giving them cold drink, has been found moſt ſucceſsful. This treatment diminiſhes the number of puſtules, and promotes, inſtead of retarding, the eruption. But, whether it will do the ſame good in the meaſles, which is rather more inflammatory, and ſo liable dangerouſly to affect the lungs, may be doubted. Beſides, in the ſmall-pox, whent here are few puſtules, there is leſs ſuppuration, and leſs abſorption; but neither take place here. Experiments alone can decide; and we were as much ſurpriſed at firſt, when cold

air was introduced in the treatment of the ſmall-pox, as at preſent, we may be when propoſed for the meaſles.

The meaſles are ſimilar to the ſmall-pox in ſeveral circumſtances. Both have their origin from the ſame country; both exanthematous; both regular in their ſtadia; both of an inflammatory nature; both diſagree with the hot method, and agree with the antiphlogiſtic. The eruptive fever, in the meaſles, ſhows ſtronger marks of inflammatory diſpoſition than the ſame ſtage of the ſmall-pox; as there is in the former more cough, more heat, and the eyes are oftener inflamed. Theſe ſymptoms point out clearly the antiphlogiſtic method of cure. 1. Bleeding makes the moſt important article of that treatment. It is ſurpriſing, that ſo few authors recommend it in the firſt ſtage. Sydenham, who conſidered this diſeaſe as highly inflammatory, never mentions it; not even to prevent the peripneumony; yet it is, at leaſt, as neceſſary as in the ſmall-pox. It is never ordered by phyſicians, unleſs ſome violent ſymptom appears. But the preſent caſe will convince us, that it generally ought to be uſed,

uſed, as a means of preventing or alleviating bad ſymptoms. 2. Keeping the body open, in this ſtage, and thro' the whole diſeaſe, which we endeavoured to do by clyſters, ſeems equally uſeful. Gentle laxatives appear more neceſſary here than in the eruptive fever of the variolae, as they promote a derivation from the lungs, and carry off ſome of the morbillous matter. 3. In this caſe, after the patient came into the hoſpital, the room was kept cool; no fire was allowed; and a little of the window was kept open, although it was then the middle of winter. The drink was cold, and the diet low.

" On the 6th, the eruption appeared on the face. On the 7th, ſhe came into the clinical ward. At noon, her pulſe was 116; at night it was 100. The eruption was now ſeen over all her body, but eſpecially on her face. She ſleeps ill; has ſome difficulty of breathing; no moiſture on her ſkin; her body is bound; and her urine is leſs in quantity, and high coloured. 8th, pulſe 108 in the forenoon, and in the evening 90, and of natural ſtrength. More eruption appears on her arms. Cough and

head-ach eaſier; but ſhe has a little pain of her breaſt. Skin moiſt. Drought leſs. Her milk is diſappearing." This is the ſtadium of eruption.

To obſerve the time of eruption, is of moment in the prognoſis. Diemerbroek has remarked, that the diſeaſe is always milder, when the eruption happens on the 3d, than when on the 5th day. This obſervation is juſt the reverſe of what has been made in the ſmall-pox, and is confirmed by the preſent caſe, where the eruption happened on the 6th, and it was mortal; and, by another patient formerly in the clinical ward, where it happened on the 5th, and the caſe was attended with much danger. The eruption is ſeen firſt, and in greateſt quantity, on the face. The parts which preſpire moſt, as the groin, ham, glans, &c. ſeem to have leaſt of it. I never obſerved any on the tongue or palate.

In our patient, the vomiting and cough abated on the appearance of the eruption; but I am not ſure with regard to the ſtate of the fever at that time, as on the 7th day, when ſhe came in, her pulſe was 116.

In the favourable caſes, the fever, and other ſymptoms, diminiſh; in the unfavourable, they always increaſe.

On the 1ſt and 2d day of this ſtage, no moiſture appeared on the ſkin; but a little on the 3d. A moiſt ſkin is always a good ſign, as it ſhows general relaxation, and frees the internal parts. Here, as in the ſmall-pox, much goes off by the cutaneous excretion; and in both diſeaſes there is a peculiar ſmell. A purging, along with the ſweat, is favourable, as it carries off part of the morbillous matter; but here the body was bound.

The urine was in ſmall quantity. I have often ſeen a total ſuppreſſion of urine, not from any fault in the bladder, but of the kidneys.

Why is there no ſuppuration here, as in the variolae? The only anſwer is, that ſuch is the nature of the diſeaſe. Perhaps the acrid matter lies here above the membrana adipoſa, where, in the ſmall-pox, it ſeems to be lodged; perhaps as it lies, even above the cutis, and is not ſufficient to raiſe there ſuch a degree of inflammation as to burſt the perſpiratory

veſſels, which the eryſipelas and cantharides do. Hence, it is ſurpriſing, that theſe two diſeaſes ſhould ever have been by authors conſidered as the ſame.

Our attendance on this patient began only on the 2d day of this ſtage. Though bleeding is forbid by authors during the eruptive ſtage, yet I have long been convinced of the impropriety of this rule. All eruptions go on better with a moderate than with too ſtrong a pulſe. I have often bled in the beginning of this ſtage, and always found the eruption increaſed, not diminiſhed, by it. If any ſigns of plethora had been diſcovered, bleeding would not, at preſent, have been omitted. But there appeared no preſſing indication; and an attention to preſerve her milk, about which the patient was anxious, had ſome ſmall influence. I muſt own, ſuch temporiſing, and often frivolous reaſons, prevail too much in medicine.

" The third ſtadium, or that of exareſcence, which generally begins on the 6th, did not happen until the 9th day. The pulſe in the morning was 96, and ſoft. Eruption on the arms retiring; but rather more

more plentiful on the face. The cough was increaſed; and ſome pain was felt in the breaſt. Fiat venaeſect. ad unc. viii. Blood in a natural ſtate ℞ Rad. alth. unc. i. coq. in aq. font. lib. iii. ad lib. ii. & cola. cap. unc. iv. 3tia quaq. hor. Hor. 7ma, P. M. pulſe 76. On the 10th, hor. 10ma, A. M. pulſe 72, and ſoft; but at night, 92. Cough eaſier; pain of the breaſt gone; eruption ſtill appears on the face, but not on the body. 11th, Pulſe 100, at night 92. Nauſea, oppreſſion about the region of the ſtomach, ſevere head-ach, and her left eye inflamed and painful. Applicent. hirudines No. iii. temp. Injiciat. clyſma. 12th, Pulſe the ſame. Cough and head-ach. Applic. emplaſt. epiſpaſt. terg. 13th, Pulſe 100, in the morning, 92 at night, and ſoft. Bliſter diſcharges well. Inflammation of the eye, head-ach, and cough eaſier. Oppreſſion and anxiety of ſtomach ſtill continue. 14th, Pulſe 104, and ſoft. Slept ill, from a conſtant tickling cough. Hor. 3tia P.M. breathing laborious; great anxiety; cheeks red; pulſe 132, and ſoft. She was bled twice that afternoon. Blood has

a thick ſizy coat. Breathing relieved, for a little, by each bleeding. She got a ſolution of emetic tartar. After the ſecond doſe, ſhe vomited and purged thrice. Her breathing became eaſier, the expectoration was in conſiderable quantity, and ſhe ſlept an hour. Applic. empl. epiſp. later. 15th, Hor. 4ta, A. M. breathing more difficult. Rep. venaeſect. ad unc. vii. Blood in a natural ſtate. Breathing and expectoration eaſier. Inſpiret vaporem aquae calidae. Hor. 12ma, pulſe 160, and weak. The vapour was continued for half an hour, ſeemed to relieve her breathing a little, and a general moiſture appeared, which ſtill continues. Breathing at preſent laborious, and ſomewhat convulſive. Expectoration plentiful, thick, and yellow. Urine paſſed inſenſibly. Hands tremble much. Eyes inflamed. Face and cheeks pale. Eruption ſtill to be ſeen on the face. Tongue white and clammy. Thirſt conſiderable. Applic. cucurbit. ſine ferro ſtatim later. & poſtea fotus later. ℞ Pulv. Jacob. gr. xii. conſ. roſ. q. ſ. fiat bol. cap. ſtatim. Injiciat. clyſm. ex aq. tepid. unc. viii. Applicent. ſinapiſm. pedibus.

bus. Hor. 7ma, P. M. pulſe 150, and weak. Shoulders much raiſed in reſpiration. Expectoration difficult and diminiſhed. Lips pale and dry. No pain. Died at 10 P. M.

When her body was opened, the trachea was found filled with matter of a purulent appearance; but no preternatural membrane, or ulceration, were ſeen. The internal membrane of the trachea was much inflamed; but no eruption or puſtules were found upon it; nor was it preternaturally thickened. On cutting into the ſubſtance of the right lobe of the lungs, a conſiderable quantity of blood flowed from the inciſed veſſels and cellular membranes; and ſome of the ſmaller ramifications of the bronchia emitted the ſame purulent matter before-mentioned. On cutting the left lobe, the blood-veſſels were much leſs filled with blood; but the ſmalleſt viſible ramifications of the bronchia ſeemed every where filled with purulent matter. The lungs had no adheſions, and externally were of a natural colour. About two or three ounces of water were found in the pericardium. Abdominal viſcera natural.

From

From this caſe, the following reflections ariſe:

1. In the third ſtage, many uncommon and unfavourable ſymptoms appeared. It did not begin till the 9th day; whereas it uſually commences on the 6th. I ſuſpect that the later the exareſcence, as well as the eruption, ſo much the worſe. The latter happening late, muſt make the former ſo too. The puſtules continued longer on the face than on the body and arms, which is not common. The body was always bound; but, to have enabled us to form a favourable prognoſtic, it ſhould have been open. The ſkin was always dry, whereas it ſhould have been moiſt. A conſtant ſevere tickling cough, and no ſleep. Severe head-ach, and inflamed eyes. The pulſe quickened on the 2d night of this ſtage, though ſhe had been bled the day before. All theſe portended danger.

2. The ſymptoms in the third ſtage appeared to be very ſimilar to thoſe of the peripneumony, as dull pain in the breaſt, difficult breathing, ſevere cough, thick and yellow expectoration, hoarſeneſs, cheeks flushed, eyes inflamed, ſoft pulſe, and ſizy blood.

blood. Indeed, it reſembles a peripneumony ſo much, that there can be no wonder that authors conſider the meaſles, when ending fatally, as terminating in a peripneumony. Still, however, they ſeem to be different. In all the mortal peripneumonies which have occurred to me, the blood had the ſizy cruſt to the laſt; but the blood taken from this patient, towards the latter end of the diſeaſe, had it not. On diſſection, no inflammation or hard congeſtion was diſcovered in the ſubſtance of the lungs of our patient, which is always found in mortal peripneumonies.

3. Though the ſymptoms ſeemed to point out a topical pulmonary affection as the cauſe of her death, yet diſſection does not warrant this opinion. The inflammation of the internal membrane of the trachea; the plethoric ſtate of the pulmonary veſſels; the purulent matter in the bronchia, which muſt have been formed from mucus collected in them, as there was no ulceration; and the hydrops pericardii, the only appearances found on diſſection, ſeem not to have been the cauſe of her death, but rather the effects of the

diſ-

diſeaſe. The collection of purulent matter, no doubt, aggravated the ſymptoms; but then the danger took place, probably, before that began. The fever appears to have been the mortal cauſe. This fever could hardly take its riſe from cuticular abſorption, as it muſt be ſmall from ſuch a dry eruption; but from a great quantity of morbillous matter remaining in the blood, after the eruption. Perhaps the ſtoppage of the milk increaſed the plethoric ſtate.

4. When the peripneumonic ſymptoms appear, bleeding is allowed to be the principal remedy. Sydenham recommends it as the only one. "Profecto haud paucos infantes, hoc ſtatim ſymptomate enecandos, miſſo ſanguine, eripui." Our patient was bled on the firſt day of this ſtage, as the cough had increaſed, and ſhe had ſome pain in the breaſt. After bleeding, her pulſe diminiſhed 20 beats, in a minute, on that day, and the next, till the evening.

When the peripneumonic ſymptoms afterwards appeared ſevere, ſhe was bled thrice. Each bleeding was attended with immediate relief; but it was of ſhort duration.

ration. On the third bleeding, the blood was not ſizy, and the pulſe became weak; ſo we could proceed no farther in that evacuation. The diſſection too, ſhowed, that there was no inflammation in the ſubſtance of the lungs. After this, dry cupping was applied to the breaſt. Hence bleeding, the principal remedy, fails when the danger is great; and it will more eaſily prevent any danger in the firſt ſtage, than alleviate it in the third.

5. As natural purging is of ſuch uſe during the exareſcence, the body was kept conſtantly open by repeated clyſters. The emetic tartar purged her thrice. I have often given the infuſum tamarindorum with ſucceſs in this ſtage. Oleum ricini, appears to be a more eligible remedy, as, beſides being purgative, it is alſo pectoral. Purging, as well as bleeding, ought to be purſued in the firſt ſtage, when the fever is conſiderable; the advantage of which practice, is evident from the following caſe. A young lady, of an inflammatory habit, who, at the beginning of the diſeaſe, was ſeized with very ſevere ſymptoms, was, in the firſt ſtage, purged frequently by a doſe

of

of emetic tartar, and ſhe had no fever in the third ſtage. Purgatives, and emetic tartar, may, perhaps, have as good effects, in the firſt ſtage of the meaſles, as of the ſmall-pox.

6. When the ſymptoms began to appear dangerous, and the breaſt was more affected, on the 12th day a bliſter was applied to her back. The cough was eaſier after it. On the 14th, when the breathing was difficult, another was applied to her ſide. But, though it roſe well, yet it had no laſting good effect. I doubt whether their advantages compenſated their diſadvantages.

7. On the 14th, when there appeared much expectoration, I ordered an ounce of the ſolution of emetic tartar to be taken every hour till it ſhould excite vomiting. After the ſecond doſe, ſhe vomited much, and purged thrice. The breathing and expectoration were eaſier afterwards; and ſhe fell aſleep. She got no more of the ſolution, as ſhe could not bear much purging; and I was afraid leſt it might ſtop expectoration, as purgatives do in the peripneumony. Theſe two diſeaſes appeared to me more allied at that time, than

they

they do at preſent. Perhaps the vomiting might have been continued with advantage, from the quantity of purulent matter which we found in the bronchia, as that appears the only method to carry it off. She took two doſes of James's powder, each conſiſting of twelve grains, without any ſenſible effect or advantage.

8. As the vapour of warm water drawn into the lungs, is found to be of uſe in the peripneumony, it was applied. The breathing ſeemed at firſt relieved, and a ſweat appeared after it; but this ſymptom might be owing to the general debility. On continuing the vapour, ſhe became faint. Some vinegar was afterwards mixed with the water; but it was to little purpoſe.

9. She had a fomentation applied to her breaſt, to relax the inflammatory ſtate. It brought on a general ſweat, and did no good.

10. Sinapiſms were applied to her feet to rouſe the vital motions, and to produce a derivation from the breaſt; but without any good effect.

This caſe affords many important inſtructions in practice: That we ſhould at-

tend more to evacuations in the firſt ſtage, than we do; that cold air, cold drink, &c. ſo very ſucceſsful in the ſmall-pox, were not attended, in this caſe, with ſimilar ſucceſs; that the ſymptoms of danger do not ariſe from the inflammation of the ſubſtance of the lungs, but from ſome other cauſe; that bleeding does not always obviate the cauſe, though it is neceſſary to diminiſh the ſymptoms; and, that we need not be afraid that vomiting will prove hurtful, from its increaſing any inflammation of the lungs, but may rather judge that it will be of uſe by aiding expectoration. Many other inferences will occur from this curious caſe.

SECT. VI.

Experiments upon ſome Remedies uſed in the Phthiſis Pulmonalis.

There is no diſeaſe more common here than plumonary conſumption; and none, eſpecially in its ſecond ſtage of ulceration, is more incurable. The number of young ladies who die, in this place, of this diſeaſe, is very great; and ſurpaſſes, in my

circle,

circle, thoſe of the other ſex: Their breaſt is much better covered at home, than than when they go abroad; and their bodies, after being heated, are not ſo able to bear the cold as thoſe of men. But it is otherwiſe in the lower ranks. Of ſixteen phthiſical caſes, in my roport-books, only four of them are thoſe of women. Men of that ſtation are more ſubjected to all irregularities, and every inclemency of the weather. Nor are thoſe of middle age ſecure againſt its attacks, as is commonly obſerved. About the half of theſe patients are at leaſt about forty years of age, and ſome of them are much beyond that period.

In a diſeaſe ſo general and ſo deſtructive, we ought to pay attention to every new method of cure, give it a fair trial, and from that judge of its merit. I propoſe, therefore, to collect ſome of theſe experiments made upon remedies lately recommended in the cure of the phthiſis.

ACIDUM VITRIOLICUM.

The vitriolic acid, and the elixir vitrioli acidum have been much uſed of late, as

I am told, in the London hoſpitals. It is the vitriolic acid alone, in the latter medicine, that is capable of producing any effects. De Haen has given us ſome caſes, in which this medicine was ſucceſsful. Hence, further trials became requiſite to confirm or reject its uſe.

EXPER. I. November 29th, 1774. William M'Pherſon, 30, a taylor, about ſix weeks before this, after expoſure to cold, was ſeized with cough, dyſpnoea, and frequent haemoptoe. Of late his expectoration has been free from blood; ſometimes white, ſometimes yellow; and ſwimming moſtly upon the ſurface of water. He has ſome pain in his right ſide, and his legs ſwell in the evening. His pulſe is ſoft, about 100, and much the ſame in the morning as in the evening. Sweats none. Much thirſt. Appetite tolerable. As the matter here had vent, and as there was much mucus ſecreted by the lax glands, I thought it a favourable ſituation for the exhibition of this medicine. He began, therefore, on December 3d, with twenty drops of the elix. vitriol. acid. in four ounces of water, twice a day. He took at bed-

bed-time Pill. Thebaic. gr. viii. each night. 7th, The drops were repeated four times a day. 10th, Each doſe was increaſed to twenty-five drops. 11th, Thirſt as great, pain of ſide the ſame, matter more yellow. A purging ſeized him laſt night. 12th, Pulſe 120, purging continues. Cap. Pulv. Rhei gr. xxv. h. ſ. 13th, Still purging. The drops were ſuſpended, and an aſtringent mixture was ordered. 15th, Purging gone. Repet. elix. vitr. gtt. xx. quater in die, & pil. thebaic. 21ſt, Pulſe 108, hoarſe. An eruption of red ſpots, which are above the ſkin, appears on his hand, each morning. 23d, Looſeneſs returned. The elix. vitr. was given up, after uſing it for ſeventeen days, without benefit. The looſeneſs appears to be owing to it, eſpecially, as I find no mention, after this medicine was omitted, of any purging.

Exper. II. February 16, 1778. John Laidlaw, 52, a waiter at the port, had laboured under pulmonary complaints for three years. Has a ſevere cough, with plentiful expectoration of a yellow matter. His pulſe is between 80 and 90; and the

ſame at night as in the morning. He feels frequent cold and hot fits; and he has an obtuſe pain of his breaſt. Vomits ſometimes. 26th, ℞ Mucil. gum. Arab. unc. ſs. aq. font. unc. iii. ſpt. vitriol. ten. gtt. xxv. M. fiat hauſt. cap. ter. in die. Cap. pil. pacif. gr. viii. h. ſ. March 3d, repet. hauſt. addend. ſpt. vitr. gtt. xv. 6th, A ſevere looſeneſs has attacked him for three nights, which made me give up the vitriolic acid. Expectoration is diminiſhed in quantity; but it is as yellow as formerly. Here again it brought on a purging, which continued for ſeveral days.

EXPER. III. Feb. 28, John Cowie, 32, a labourer, a fortnight ago, after expoſure to cold while he was ſweating, was ſeized with cough, dyſpnoea, diarrhoea, and a ſtitch in his right ſide, on which he lies eaſieſt. Expectoration yellow. Hoarſe. Pulſe from 90 to 100, and ſtrong. After ſome bleedings, where his blood was always ſizy, and after taking a vomit, caſtor oil, and an aſtringent mixture, his looſeneſs diſappeared for two days. March 5th, ℞ Mucil. gum. Arab. unc. ii. ſs. aq. font. unc. v. ſyr. alth. unc. ſs. ſpt. vitr. ten. gtt.

c. M. cap. unc. i. 6ta quaq. hor. On the 7th, the looſeneſs appeared again; ſo that the medicine was given up. He died on the 15th. On opening his body, the right lobe of his lungs was found to be entirely conſumed; and there was nothing left but a large ſack, which contained about ſeven pounds of a purulent matter, and with which the remaining bronchia communicated. The left lobe was ſound. In the pericardium, there were about ſix ounces of a clear fluid; and a little was alſo found in the abdomen. The upper part of the liver and diaphragm adhered together; and, when ſeparated, a large abſceſs appeared, which contained about two pounds of a brown, fluid, and gelatinous matter, in which were ſome hydatides, and many films of others. There was no communication between this and the ſack in the lungs, and the diaphragm only intervened. The internal ſurface of this cavity was in part ulcerous, in part horny, tending to an oſſified ſubſtance. At the inferior edge of the liver there was a tumour, of the ſize of the hand, quite filled with hydatides, of various ſizes and ſhapes, the

films of which were very thick, and ſo compreſſed, that each bore the impreſſion of thoſe contiguous. The internal ſurface of this ſack was horny and white, but not oſſeous. The tunica vaginalis of the right teſticle was dropſical.

From theſe three caſes, two of which were perhaps rather unfavourable, no advantage was obtained by the vitriolic acid. But the firſt was as favourable a caſe as could occur for the exhibition of this medicine, and its effects in that gives me no great opinion of its utility. Its aſtringency and ſtrong antiſeptic power may ſometimes correct the laxity of the ſolids, and the purulent diſſolution of the fluids. But we find, that it ſtrongly tends to promote purging, even though joined to the mucilage of gum Arabic, and accompanied with opiates. This is certainly a bad effect.

ALUMEN.

Monſieur Goddart recommends alum in the phthiſis, to ſtop the purging and colliquative ſweats, and correct the diſſolution of the fluids.

EXPER. IV. William M'Pherſon, Exp. I. took, at firſt ten, and then fifteen grains of alum, thrice a day, for ſix days. At the end of this period he was no better; and while he took it, his pulſe ſeemed to become quicker; ſo it was given up.

I ſhould expect no greater advantage from it than from any other aſtringent, that is, to diminiſh a looſeneſs, when there is any. It does not appear to have any powers in curing the diſeaſe.

CORTEX PERUVIANUS.

The bark has been recommended by ſeveral authors, and is at preſent uſed in this diſeaſe. But, as this is ſo powerful a medicine, we ought always to remember, that, when not uſeful, it may not be entirely innocent.

EXPER. V. Will. M'Pherſon, Exper. I. to diminiſh the quantity of matter expectorated, was put on a courſe of it. On Jan. 1ſt, he took half a drachm of it, four times a day. 6th, Thirſt greater; more heat in the ſoles of his feet; breathing more difficult. 10th, The fever during the night

increaſed. 15th, Difficulty of breathing much worſe, and he ſweated all night.

Thus it was tried for fifteen days; but all the ſymptoms were evidently worſe. I have had ſeveral caſes before, in private practice, ſome of which are to be found in the Medical Facts, of the bark not only being uſeleſs, but very hurtful, in this diſeaſe. In one caſe of a Lady, the paroxyſm, inſtead of going off in the morning, as uſual, retired about 8 P. M. Her diſeaſe, though with every other ſymptom of a phthiſis, was thought to be an intermittent. She was adviſed, therefore, to take the bark. In a few days, the dyſpnoea and cough were worſe, which obliged her to give up that medicine. She died; and, when opened, many ulcers were found in the lungs. The natural effects of the bark, which is to bind the breaſt, might make us ſuſpicious of its bad effects, in a diſorder where a free expectoration is ſo neceſſary. I have always obſerved it highly detrimental in this diſeaſe,

AMY-

AMYLUM.

As ſtarch is claſſed amongſt the incraſſants and demulcents, it was natural to try it in the phthiſis.

EXPER. VI. May 16, 1770. Alexander M'Laughlan, 60, after a fever, ſome weeks ago, was ſeized with ſevere cough, expectoration of yellow ill-taſted matter, ſtich in his right ſide, on which he cannot lie, and a hot fit in the evening, preceded by chillineſs, and ſucceeded by a ſweat in the night-time; pulſe 94, and rather weak. ℞ Amyl. unc. i. aq. font. lib. i. coq. ad unc. xii. dein add. Syr. alth. unc. i. cap. unc. ii. 4ta quaq. hor. He had Tuſſilago tea for common drink, and an opiate at bed-time. 23d, Expectoration eaſier, and its taſte not ſo bad. 28th, Expectoration has loſt the putrid taſte. June 3d, pulſe 88, cough much abated, and ſweats none. Sleeps well. 20th, Diſmiſſed cured.

EXPER. VII. William M'Pherſon, Exper. I. tried it for nine days, without much advantage.

EXPER.

EXPER. VIII. Feb. 9, 1778. Ephebia M'Glaſſan, 14, affected during a year with cough, expectoration, haemoptoe at times, and pain in her breaſt. When I ſaw her, the expectoration was white; pulſe 90. She had been in the houſe for two weeks, and been bled, bliſtered, &c. and was rather eaſier. ℞ Amyl. unc. ſs. diff. in aq. font. unc. viii. ſyr. alth. unc. i. M. cap. unc. i. 4ta quaq. hor. An iſſue was put between her ſhoulders. 20th, Complaints gone, and ſhe was diſmiſſed cured.

This remedy ſeems to have ſome beneficial powers in this diſeaſe. It did not ſucceed in Exper. VII. where much mucus was ſecreted from a laxity of the glands. It will be moſt uſeful when the expectoration is thin, in ſmall quantity, and attended with much tickling in the trachea and fauces.

MEPHITIC AIR.

This has been recommended by Dr. Prieſtley and others; and ſome caſes of its ſucceſs, in changing the putrid nature of the expectoration, have been publiſhed by them.

EXPER.

EXPER. IX. Feb. 24, 1774. Robert Dunbar, 30, has been for ſome months affected with phthiſis, attended with much yellow and ſaltiſh taſted expectoration. March 10th, Mephitic air, generated from chalk and the vitriolic acid, was, by inſpiration, drawn into his lungs, and the application continued for a quarter of an hour this night. He felt no other effect from it, but that of a ſharp taſte. 11th, During a ſevere fit of coughing this evening, the mephitic air was applied at 5 P. M. but the coughing laſted till 8 P. M. 17th, Defluxion leſs yellow; much eructation follows the mephitic air. 26th, Defluxion leſs yellow, and in leſs quantity. Complaints eaſier; and he was diſmiſſed at his own deſire. This patient ſeemed to gain ground while uſing the mephitic air; but he was taking, at the ſame time, a ſtarch mixture and opiates.

EXPER. X. March 15. John Stewart, 20, for three weeks paſt has been affected with cough, a defluxion which is very yellow and of a ſaltiſh taſte, pain of his ſide, head-ach, and vomiting. Pulſe 120, and weak. He had a vomit, an opiate each night at bed-time, and

and an iſſue was put in his ſide. 18th, Began the uſe of the mephitic air for a quarter of an hour each day. 25th, Matter expectorated neither ſo yellow, nor ſo bad taſted as formerly. Pains in his breaſt eaſier, and breathing better. 28th, Expectorated matter is much diminiſhed in quantity, does not ſink in water, as it uſed to do, and is leſs yellow. April 8th, recovered his ſmell, which he had quite loſt; ſays the mephitic air produces a nauſea. 21ſt, All complaints better. Diſmiſſed on the 25th. A ſhare of this cure may juſtly be attributed to the mephitic air.

EXPER. XI. William M'Pherſon, Exp. I. after the firſt application of the mephitic air, felt himſelf ſick and faint. The 2d day, about two hours after uſing it, he was ſeized with dyſpnoea, giddineſs, and fainting. His pulſe, before uſing it, was 112; after it, 108. Though I could not ſay that theſe effects certainly aroſe from the application of the mephitic air, as they ſhould have appeared at the time, and not two hours after, yet I deemed it prudent to deſiſt.

EXPER.

EXPER. XII. John Laidlaw, Exper. II. tried the mephitic air for a few days. He felt the vapour warm in his breaſt; and it had a ſour taſte. But he ſeemed not to be relieved by it, though he continued to uſe it for about twelve days.

From theſe experiments, mephitic air appears ſometimes to be of uſe. It may act, 1. Directly on the purulent matter, and mitigate its acrid nature. This the two firſt experiments, and thoſe of Dr. Prieſtley, ſhow. 2. It may be abſorbed into the vaſcular ſyſtem, and correct the effects of pus after it is abſorbed. The 2d caſe gives us ſome reaſon to think ſo. 3. It may affect the nerves and veſſels of the part, and of the whole ſyſtem, as it appears to be an excellent tonic medicine. Many of the German waters, and eſpecially thoſe of Seltzer, are much uſed in conſumptions; and they owe almoſt all their powers to mephitic air. But more experiments are neceſſary, to fix its effects in this diſeaſe, and the degree of truſt it deſerves.

VAPOUR OF THUS.

Mead recommends the vapour of thus, of ſtyrax, and of ſuccinum thrown on live coals, or balſam of Tolu ſmoaked like tobacco, to correct the ſharp defluxion. Others chuſe benzoin. But benzoin and ſuccinum, from the quantity of ſalts which they contain, ſeem to be too acrid. I, therefore, preferred Thus.

EXPER. XIII. Alexander M'Lauchlan, Exp. VI. had the vapour of frankincenſe applied for ſeveral days, while he was taking the ſtarch. It did not ſeem to do any good, and I thought that he coughed much after its application.

EXPER. XIV. John Laidlaw, Exp. II. after trying it, had ſevere fits of coughing; ſo that, after the ſecond time, he would not uſe it any longer.

From theſe, and other trials made with this remedy, I have no opinion of it, eſpecially when we conſider, that it is, in effect, the application of ſtimulating eſſential volatile oils, and acid volatile ſalts, to an irritable and diſeaſed part. I found the effects

effects of theſe vapours much gentler, when the gum was thrown on heated brick, than on coals, as the vapour of the coal itſelf is offenſive. It would probably be ſtill better to fumigate the room, and to uſe no ſtronger, or nearer application of it. Perhaps, theſe gums may emit ſome mephitic air, to which they owe their ſalutary qualities, if ever they poſſeſs any.

Upon the whole, moſt of theſe medicines have been found to exaſperate, rather than mitigate the ſymptoms. Starch and mephitic air are the only remedies which ſeem to have alleviated their ſeverity. More cannot be done; for, while matter continues pent up in the lungs, it muſt produce its effects, and at laſt deſtroy. If the ulcer is open, it will, generally, of itſelf, and without any aſſiſtance, heal.

SECT. VII.

Melaene. * See Van der Wiel Vol. 2. Cent. 16. &c

There are few diſputes between the antients and moderns, in the practical, but many in the theoretical branch of medicine. The former were not uſed to diſ-

ſection;

ſection; knew not the principles of chemiſtry; and ſeldom inſpected morbid bodies. Hence they are not to be truſted in the pathology of diſeaſes. The preſent is a ſtrong proof of this obſervation; as there has been much difference of opinion betwixt them, with regard to its ſeat and origin. It is the νοσος μελαινη, or Morbus Niger of Hippocrates, the Seceſſus Cruentus of Hoffman, and the Melaene of Sauvages. It is often a ſymptomatic diſeaſe only, ariſing from obſtruction of the liver, ſpleen, ſtomach, and of the other inteſtines. When it thus appears at the latter end of a diſorder, it is juſtly reckoned very fatal. But it is ſometimes idiopathic; and then I have found it not to be very dangerous. As I have met with three caſes of this latter ſort, and as this ſtate of the diſeaſe is very rare, I think them well worth our attention, eſpecially as I could not find in authors, any practical obſervations that were of much aſſiſtance to me, in the treatment of theſe caſes.

HISTORY I. December 24, 1776. George Blyth, 27, a taylor, about twelve years ago, had an ague, attended with a

ſwelling of the abdomen, which was painful on preſſure, and after eating. Since that time, each Spring and Autumn, he has complained of pains in the region of the liver, in the ſhoulders, ancles, and wriſts. He had in June the laſt attack of theſe complaints, during which he felt a ſtrong deſire for acids and bitters. December 23d, without any known cauſe, he firſt perceived his ſtools to become black and looſe; and, after the firſt and ſecond, he was very faint. When he came into the clinical ward, he had paſſed about two pound of a liquid matter, which was black, ſhining, very foetid, and about the conſiſtency of honey. Some ſcybala were mixed with it. He had not much pain, only a little griping, which he attributed to a doſe of Anderſon's pills he had taken the day before; but which probably aroſe from the diſeaſe, as he had afterwards the ſame ſymptom. He complained of much weakneſs. No hardneſs or obſtruction could be diſcovered in the liver, ſpleen, or any part of the abdomen, when examined or preſſed. Head-ach. Tongue moiſt. Bad taſte in his mouth. Pulſe 104, and ſoft.

3d, Took a vomit. 4th, Pulſe 130, vomit operated well; and ſtomach foul, but the contents are not acid. Thirſt. Has paſſed many ſcybala, and black ſtools. Head-ach, but he has no pain in the abdomen. Cap. Pulv. Rhei ſcrup. i. merc. dulc. gr. iii. 5th, Pulſe 108, had ſeven looſe ſtools, of the ſame black matter, as already deſcribed. Cap. elix. vitr. acid. gtt. xx. in aq. unc. iv. ter in die. 6th, Pulſe 136, and ſtrong. Violent head-ach. His ſtools, during the night were of a black colour; but he had one, this morning, which was natural. The acid is agreeable, and produces no pain of his belly. Fiat venaeſect. ad unc. ix. Hor. 8va, P. M. Pulſe 108. 7th, He was not bled till this morning. Blood has a natural appearance. Pulſe 106, and rather ſtrong. Has had two black, and two yellow ſtools. Great debility follows the former, but not the latter. He ſweated much laſt night, and thought himſelf eaſier after it. 8th, Pulſe 96, and of natural ſtrength. Urine pale; but has a little white ſediment. His ſtools are of a natural colour, but they are ſtill looſe. Head-ach eaſier. His tongue is white and dry;

but

but his thirſt is abated. Some ſlight pains of his belly. Debility is diminiſhed. 9th, Pulſe 96, has moiſture on his ſkin. No pains of his belly. After this he continued to recover; and on the 17th, pulſe 76; but body ſtill looſe. 21ſt, He was ordered the bark. 24th, Diſmiſſed cured.

Hist. II. February 7, 1778. Jean Cubie, 25, unmarried, regular as to the appearance of the menſes, and affected with frequent vomiting and loſs of appetite during the winter, was ſeized, on January 30th, with violent vomiting of a tough viſcid, and purging of a black, tar-like matter, both which continued that night and next day, attended with ſevere gripes. February 3d, the vomiting and purging ceaſed; but her ſtools were ſtill black, and attended with nauſea, and pain of belly. 8th, The vomiting and purging returned, and continued all day. The firſt ſtool was black; but afterwards ſhe paſſed, with much pain, florid blood, without any faeces. Great weakneſs, and frequent fainting fits, in one of which ſhe continued ten minutes. 9th day of her diſeaſe, on which ſhe came into the clinical ward,

her vomiting was much abated, and blood in leſs quantity. No ſchirroſity or hardneſs can be felt in the abdomen. Great weakneſs. Skin hot. Mouth dry and clammy. Pulſe 80, and of natural ſtrength. No appetite. Sweated ſome after vomiting. Attributes her diſeaſe to fatigue. Fiat venaeſect. ad unc. vii. ℞ Spt. vitr. ten. drach. ii. aq. font. unc. ii. ſyr. e roſ. ſicc. drach. ii. M. fiat Julap. Cap. cochl. parv. ex ſcyath. aq. 4ta quaq. hor. Cap. cras mane, inf. tamar. unc. ii. unaq. hor. donec alvus ſoluta ſit. 10th, Pulſe 78, and rather weak. Blood of a looſe texture, and it has not much ſerum. Stools, during the night, are thin; full of mucus mixed with a little blood, and paſſed with much pain; but they are not foetid. The vitriolic julap produces no gripes. The phyſic vomited her a little, purged her twice, and griped her. 11th, Pulſe 74, and of natural ſtrength. Slept well. No complaint, but a little pain in the ſtomach, and weakneſs. 12th, Pulſe 64, pain of breaſt and belly. Had this night a black ſtool, with ſome blood in it. 14th, Pulſe 64, urine turbid, with ſome ſediment. 15th,

Body

Body coſtive. ℞ Ol. ricin. drach. vi. ſpt. vin. ten. drach. ii. M. cap. cras mane. Diſmiſſed cured.

Hist. III. April 14. James Leſlie, 42, a labourer, formerly ſubject to intermittents, about a fortnight ago, after expoſure to cold in the night-time, was affected with pain and weakneſs in the lower extremities, head-ach, and loſs of appetite. Theſe ſymptoms increaſed during the ſucceeding days; and he was then attacked with nauſea and vomiting. For a week paſt, had been much affected with pains of the ſtomach and belly. Has hot fits, without any preceding coldneſs. The head-ach and vomiting, eſpecially after food, ſtill continue. The pains of his legs are gone. His ſtrength is much impaired. He ſleeps ill, and ſweats during the night, from the pains. His body has been coſtive for three days. Tongue moiſt, and white. Urine at firſt high-coloured, and turbid for two days. Pulſe 160. Took on the 9th and 11th a vomit, and on the 10th and 12th a laxative, which relieved his complaints; but they have recurred again. 15th day of the diſeaſe, pulſe 70,

and of natural ſtrength. No vomiting or ſweating. Pains eaſier. Cap. ſol. tart. emet. unc. i. 4ta quaq. hor. 16th, Pulſe 66, and weak. Yeſterday, at 3 P. M. before taking the ſolution, he was ſeized with a purging of black matter, like tar. At 5 P. M. he began to take the ſolution, as ordered before this ſymptom appeared; and half an hour afterwards, he had another black ſtool, and three more this morning, after the ſecond doſe. He took a third doſe at 5 A. M. this day; and at 6 he fainted, on going to ſtool. At 7 A. M. he vomited a pound of black and ſeemingly pretty pure blood. Complains of nauſea, weakneſs, ſhiverings, coldneſs of his feet, and thirſt. The ſolution was omitted. ℞ Mucil. gum. Arab. aq. font. āā unc. iv. ſp. vitr. ten. gtt. c. ſyr. alth. unc. i. M. fiat julap. cap. unc. i. 3tia quaq. hor. 17th, Pulſe 86, about the ſame hour as yeſterday, the vomiting, and purging of the ſame black bloody matter returned, with great ſickneſs, debility, and ſome ſcybala. It laſted a quarter of an hour, with a little teneſmus. Cap. ſtatim pulv. rhei gr. xxv. Fiant ligaturae ſupra genua. Beef tea was or-

ordered. Hor. 7ma, pulſe 120, he was ſeized with the ſame black vomiting, in which the craſſamentum is like a firm adheſive jelly; and he had one black ſtool, which was owing partly to the rhubarb. 18th, Pulſe 106, and ſtronger. Reſtleſs during the night. The ligatures continued applied until 3 o'clock this morning, and they were then taken off, as they were uneaſy. He vomited again at 9 A. M. but the matter thrown up was not ſo black. Utatur pediluvio ex aqua frigida ſtatim, & repet. veſp. Hor. 7ma, P. M. pulſe 96. 19th, pulſe 96, and ſtrong. Matter vomited was not black; but he had ſevere pains before vomiting. Body coſtive for two days. Fiat venaeſect. ad unc. vii. Injiciatur clyſma. Hor. 7ma, P. M. pulſe 80. 20th, Pulſe 76, and rather ſtrong. Blood in a natural ſtate. Pains of belly were ſevere during the night, but they are now eaſier. He has no vomiting or purging, but frequent teneſmus. The clyſters had no effect. Rep. venaeſ. ad unc. viii. Repet. clyſm. 21ſt, Pulſe 78, and rather ſtrong. Blood in a natural ſtate. Cap. inf. tamar. cras mane. 22d, Pulſe ſtill ſtrong. He

complains of dyſpnoea. Has a pain amongſt the ſhort ribs of the right ſide, increaſed by full inſpiration. Tongue black, but moiſt. Rep. venaeſ. ad unc. x. Injiciatur clyſm. domeſt. 23d, Pulſe 76, and rather ſtrong. Blood natural, and the craſſamentum adheres firmly. A hard ſtool after the clyſter. Pains eaſier. Rep. clyſm. 24th, Complains of a head-ach, and pain of ſtomach. One black ſtool after the clyſter. 26th, Complains of gripes, and his body is bound. Cap. ol. ricin. unc. i. h. ſ. This he got for three nights following, as it ſcarcely proved laxative, and as a little black matter ſtill appeared in the faeces. After this, he recovered, by degrees, after having been 12 or 14 days under the black vomiting and purging.

Let us now draw ſome concluſions from theſe three remarkable caſes.

1. Hippocrates, Boerhaave, Van Swieten, and perhaps Morgagni, thought that the atra bilis was the cauſe of this diſeaſe. But, 1. The bile is often black, when there are no black ſtools. 2. The bile could not afford the great quantity of black matter paſſed by our patients. 3. Bile does not eaſily become putrid, as the matter

evacuated

evacuated was in the firſt caſe. 4. Morgagni errs in thinking that the two pounds of fluid which he found in the ſtomach could not, on account of its quantity, be blood; and hence in concluding it to be atra bilis. But from theſe caſes, the black ſtools appear evidently to be owing to blood effuſed from the meſeraic veſſels. 1. A hemorrhagy of blood by ſtool followed in Caſe II. by both vomiting and ſtool in Caſe III. and, in both, it alternated with the black matter. 2. More debility was felt than attends a common diarrhoea. All the three patients had great debility and faintings; and the firſt felt a ſenſible difference when he paſſed yellow or black ſtools; the latter being always attended with great debility. When we add to theſe proofs, that this diſeaſe often follows other hemorrhagies; that ſcorbutics are moſt ſubject to it; that the meſeraic veins are found ſwelled and turgid after death; and that it often ariſes from obſtructed viſcera; there can remain no doubt from what cauſe the black ſtools ariſe.

2. It is difficult to ſettle the preciſe ſeat of the diſeaſe in our patients. As all the three complained much, during the diſeaſe, and

and after it was gone, of pain in the ſtomach, the ſeat may be thought to be in that viſcus. But, if ſeated there, the two firſt patients muſt have vomited blood alſo, as well as the laſt. In the two firſt, therefore, the diſeaſe was perhaps ſituated in the ilium; and in the laſt, probably in the ſtomach, or beginning of the ſmall guts. As black blood is often found in the ſpleen, Van Swieten deduces its origin from thence, by the liver, or vas breve. But there is no proof of a paſſage either way; and, at the ſame time, he ſuppoſes it to be atra bilis.

3. We find, in all the three caſes, previous complaints in the inteſtinal canal, as loſs of appetite, pains, vomiting, &c. before the diſeaſe appeared. Theſe point out obſtruction and irritation there for ſome time; but the obſtruction could not be great, as the diſeaſe was ſo ſoon cured. From this obſtruction, aſſiſted by vomiting, hemorrhagy will naturally happen, as the internal coat of the inteſtines is but weak.

4. Severe gripes attended; as the veſſels were either ruptured, or much dilated; as

blood,

blood, by ſtagnation, becomes acrid; as ſcybala are formed, which occaſion pain in the dyſentery; and, as ſpaſms take place in the inteſtinal canal, of which the ſcybala are a proof.

5. The black matter was very foetid in the firſt caſe, but not in the two laſt. Blood expoſed to heat and air turns black and foetid. Perhaps, if it ſtagnates long in the meſeraic viens, as it does in thoſe of the uterus before the menſes appear, it may become ſo. It did not ſeem to have remained in the inteſtines very long in Caſe I. as in it there was moſt purging.

6. Great debility, and frequent fainting, attend this diſeaſe, as there is much blood loſt, which, on the whole, might have amounted to ſeveral pounds; and as, while ſtagnating in the inteſtines, it becomes acrid and putrid, it may in this way weaken the nervous power.

7. Though this diſeaſe is acute, and terminates ſoon, yet the degree of quickneſs in the pulſe is not great, generally not above 80 or 90 beats in a minute. Hence the fever may be ſuſpected to be moſtly ſymptomatic. In Caſe II. the degree of

fever kept exact proportion with the number of ſtools.

8. In Caſe I. the criſis happened on the 8th day; in the II. on the 14th day; and in the III. if we count only from the appearance of black matter, about the 14th day alſo, but if from the beginning of the previous ſymptoms, near double that time. The coincidence, in this uncommon diſeaſe, of the time of the criſis, with fevers in general, is ſingular, and gives us a high opinion of its regular nature, though in theſe three caſes the criſis did not happen exactly on the ſame day. The firſt patient was cured by the continuation of the purging; the ſecond, by ſweat and thick urine; the third had no evident critical evacuation.

9. In the cure, I got only a few hints from Hippocrates and Hoffman, not, indeed, ſufficient to be of great uſe; ſo I followed my own ideas. As it is a hemorrhagic caſe, bleeding is neceſſary, if the pulſe will admit of it. Hippocrates recommends it, but only when the pulſe can bear it, elſe it muſt haſten death. In the firſt caſe, there was head-ach, and a ſtrong pulſe;

pulſe; ſo he was bled. He was better, as his pulſe was ſtronger after it. In the ſecond, though bleeding was contra-indicated by the weakneſs and fainting, yet her pulſe was of natural ſtrength; ſo ſeven ounces were taken from her on the 9th day. Her pulſe was leſs quick next morning, though ſhe was under phyſic. In the laſt, as the pulſe was ſtrong, he was bled thrice; and the pulſe became ſtronger after each bleeding. From theſe facts, bleeding ſeems uſeful in the idiopathic melaene; nor ought the weakneſs of the pulſe to deter us from bleeding in this diſeaſe more than it does in the Enteritis.

10. I think emetics are hurtful. It was reaſonable to try, in the firſt caſe, an emetic, more on account of the head-ach, bad taſte in his mouth, and black matter that might be lodged in the ſtomach, than on account of the vomiting. Beſides, emetics are recommended by ſome in hemorrhagy, though I have found them hurtful. His ſtomach was foul; but, as the black ſtools increaſed, and the pulſe became quicker after the vomit, it ſeems rather to have done hurt. The caſe was then new to

me; but it is our duty to rejudge our own proceedings, and profit by them. In the ſecond caſe, we find an emetic had been given before ſhe came in, on the 8th day; but it produced violent vomiting, which was ſtopped only by an anodyne. In the third caſe, one-third of a grain of emetic tartar was ordered every fourth hour, before the melaene appeared, and was taken after it began. The diſeaſe was not owing to it, as the attack commenced before the firſt exhibition; but, as it had been previouſly ordered, he took three doſes before our next viſit; and perhaps the vomiting was increaſed by it; ſo that I would adviſe all emetics to be ſhunned in this diſeaſe.

11. It ſeems reaſonable to clear the inteſtinal canal. Hippocrates recommends purgatives; and thoſe of his time were certainly not gentle. Clyſters are recommended by Hoffman. By cleaning the inteſtines, all foetid matter, and the preſſure of foeces, which may prolong the hemorrhagy, will be removed. With this view, I gave the infuſum tamarindorum in Caſe I. as a gentle and antiſeptic laxative. A vomiting came on, whether naturally,

rally, or from it, I cannot ſay; but the ſtools were ſoon of a natural colour; and the laxative ſeemed to do good. In Caſe II. I think the rhubarb and the calomel were of ſome uſe. In Caſe III. the oleum ricini and clyſters were uſeful. Hence I conclude, that gentle laxatives are beneficial.

12. Antihemorrhagic medicines are indicated. Hoffman recommends emulſions and nitre, which are uſed in other hemorrhagies, and are antiphlogiſtic. The vitriolic acid appeared to me to be the beſt, as it is antiſeptic, is a powerful ſedative, and is alſo a ſtrong aſtringent. Theſe effects entitled it to a trial. In Caſe I. the ſtools, ſoon after it was begun, became yellow. In the others, it was of uſe. I was afraid that it would have excited gripes; but it did not. To prevent theſe, and that it might be given in greater quantity, it was mixed with the mucilage of gum Arabic; for I find I can give double the quantity of it this way. So much does the gum cover the taſte of the acid, and diminiſh its immediate effects on the primae viae.

13. When

13. When the effuſion of blood is very great, Hoffman adviſes ligatures to be applied to the legs. But in Caſe III. where they were applied, the patient became uneaſy from the pain which they occaſioned; ſo they were removed. They did not appear to be of much uſe.

14. Hoffman adviſes the application of cold water to the feet. It muſt produce general conſtriction, by which the ſmall veſſels of the inteſtines may be contracted. It was uſed in the laſt caſe; and the quantity of black matter diminiſhed after the application. But, whether we are to attribute any powerful effect to it, or not, I cannot determine from one trial.

15. I ordered exerciſe after the diſeaſe was over, as it promotes the circulation in the vena portarum. Bark ſeemed uſeful to brace the inteſtines. I ſhunned opiates, as they would have ſhut up the matter that Nature was carrying off by diarrhoea, and would, in this way, have increaſed the putreſcency.

In the pathology, therefore, of this rare diſeaſe, we much excel the antients. In the cure, too, the advantage is greatly on our

our ſide, as we have more gentle cathartics, and the vitriolic acid, a valuable remedy, with which they were unacquainted.

SECT. VIII.

Experiments upon the Rhododendron Chryſanthemum Lin.

This medicine, the Rhododendron Chryſanthemum, much uſed for the cure of the rheumatiſm in Siberia, has been warmly recommended to us from Ruſſia, and a parcel of it ſent was to this place for trial. It ſeems to be aſtringent to the taſte; and the infuſion of it becomes black with chalybeates. It gave riſe to the following experiments.

EXPER. I. Dec. 16, 1778. Margaret Philip, 21, was ſeized, four months ago, with the ſymptoms of fever, attended by pains in her arms, ſhoulders, and wriſts. The feveriſh ſymptoms abated after ſome time; but the pains continued ſevere. She was bled, and the blood had the ſizy cruſt. On the 18th, her pulſe was 106, and rather ſtrong; ſo that the bleeding was repeated. 19th, pulſe 106, and ſofter.

Blood ſtill ſizy. Pain and ſwelling of her ſhoulder. ℞ Rhodod. chryſanth. drach. ſs. aq. bullient. unc. viii. fiat infuſ. per tres horas, cola. Cap. cras mane. 20th, pulſe 82, about half an hour after the medicine was taken, ſhe became giddy, and continued ſo for an hour, after which ſhe had a gentle ſweat. Her urine was increaſed. Rep. infuſ. rhodod. add. gr. x. cap. u. a. 21ſt, pulſe 82, ſhe was giddy and ſick after the medicine, and has continued ſweating till twelve o'clock, the hour of viſiting. Pains ſevere. ℞ Rhodod. drach. i. &c. cap. u. a. 22d, The medicine made her drowſy, but affected her head leſs than it did before. She ſweated, and purged once to-day. ℞ Rhodod. ſcrup. iv. &c. 28th, Her pulſe was 82 when ſhe took the infuſion; half an hour after, it was 68. She was ſick, ſleepy, and ſweated much after taking it. ℞ Rhodod. drach. ii. &c. Her pulſe was 68 when ſhe took the medicine. An hour after ſhe took it, her pulſe meaſured only 44; but the pains were not diminiſhed; ſo it was given up. One doſe of

Dover's

Dover's powder, given the next night, cured her.

EXPER. II. Jan. 16, 1779. Griſel Simpſon, 20, was ſeized on the 11th with a rheumatic fever. She was bled four times, and put under the antiphlogiſtic regimen. 23d, Pulſe 104, and ſoft. She took an infuſion of a drachm of this medicine in five ounces of water. 24th, Pulſe 100 before ſhe took it. Three quarters of an hour after it was taken, her pulſe was 118; at 12 o'clock, pulſe 100. She felt no ſenſible effects from it. Two drachms of it infuſed in nine ounces of water, were ordered. 25th, Her pulſe continued the ſame for an hour after it was taken. She felt a head-ach. Rep. infuſ. 26th, Pulſe before it was taken, was 112; an hour after, it was 82. Its exhibition ſtill was attended only by a pain of the head. As the rheumatic ſymptoms were no eaſier, the medicine was given up. Many bleedings were afterwards neceſſary, to reduce the inflammatory ſtate, and carry off the fever.

EXPER. III. Jan. 21. John Gibbons, 22, was attacked, on the 17th, with a rheu-

matic fever, attended with violent pains in ſeveral of his joints. He was twice bled, and put under the antiphlogiſtic regimen. 23d, ℞ Rhodod. drach. i. aq. unc. v. &c. 24th, Pulſe before taking the infuſion, 96. Three quarters of an hour after, pulſe 86. Head giddy, belly bound, and he ſweated none. ℞ Rhodod. drach. ii. aq. unc. ix. &c. 25th, Before the medicine was taken, pulſe 82; an hour after, 72, and the ſame three hours after. It produced no ſenſible effects. ℞ Rhodod. drach. iii. &c. 26th, Pulſe before the doſe 74; an hour after, 66. It produced no other effect but giddineſs. He was thrice bled afterwards, to reduce the inflammatory ſtate.

The following obſervations on the effects of this medicine may be drawn from the preceding experiments.

1. The doſe in Siberia, we are told, is the infuſion of two drachms. I began with the fourth of this doſe, and aroſe by degrees to the above quantity; and once gave three drachms, as the preceding doſes had produced no ſenſible effects. I imagine, from the conduct with regard to the

other

other narcotics, that we ought to increaſe it till we find that it produces ſome ſenſible effects. The proper and general doſe, therefore, appears to be two drachms, if we are to follow this rule.

2. It affects the head with pain and giddineſs; and produces an inclination to ſleep. It produces nauſea, and ſometimes opens the belly. It ſometimes increaſes the urine. It ſweats plentifully, when the body is not very inflammatory. But, when it is, this medicine does not ſweat, but increaſes all the phlogiſtic ſymptoms, as it ſeemed to make more bleedings neceſſary than otherwiſe might have been required.

3. It appears to be one of the moſt powerful ſedatives which we have, as in moſt of the trials it made the pulſe ſo remarkably ſlow, and in one reduced it 38 beats. By ſedatives, I mean ſuch medicines as make the pulſe ſlower, though not weaker. Such have not been much attended to by phyſicians; and, in moſt experiments, if the pulſe was not quickened, the experimenter declared they had no effect on the pulſe, never ſuſpecting that there was a numerous claſs of bodies,

which rendered it ſlower, and had as powerful effects on the ſyſtem as the former. This has been the cauſe of many falſe concluſions. I have attended much to this claſs of ſedatives, have found it very extenſive, and poſſeſſing, in common, many effects on the healthful and morbid body. Such medicines appear to be uſeful in a number of diſeaſes, as they diminiſh the ſenſibility of the nervous ſyſtem. From all the effects of this medicine, it appears to belong to the claſs of narcotic poiſons.

4. In none of theſe caſes do the ſymptoms of the acute rheumatiſm appear to have been mitigated by this medicine, though uſed in greater doſes than in Siberia. In one of the caſes, the diſeaſe was next day cured by Dover's powder. The trials were fair. So that I may venture to pronounce, that, in the cure of the acute rheumatiſm, it is a medicine much inferior, in its effects, to ſeveral others.

SECT.

SECT. IX.

Cephalalgia.

The head-ach has been diſtinguiſhed into two genera, cephalalgia and cephalea. Araeteus firſt made this diſtinction, the Stahlians adopted it, and Sauvages has continued it. But neither the length of the diſeaſe, nor the difference of the patient's ſenſation, ſeem to be good grounds of diſtinction. The preſence or abſence of fever, which they have not mentioned, was a much better foundation of diſtinction; but, even in the habitual head-ach, there generally is a degree of fever. This diſtinction terminates, at laſt, in the ſymptomatic and idiopathic head-ach.

Head-ach is a ſymptom of moſt diſeaſes, Many of theſe are general, as fevers, &c. Many topical, as irritation of the primae viae from acrimony, worms, &c. of the uterus, from plethora, &c. It is but rarely an original diſeaſe, as four caſes only of it are to be found in my report-books. Three of theſe are of the female ſex; ſo that women appear more ſubject to head-ach. It

is, indeed, a common ſymptom with them, at the approach, or after the ſuppreſſion of the menſes. As the remaining caſe of the man was mortal, I ſhall deſcribe it.

January 12, 1775. William Gordon, 40, attributed his diſeaſe to cold; but it was more probably owing to drinking ſtrong liquors, as he had been employed for ſome time in the recruiting ſervice. About the 1ſt of January, he was attacked with violent pain of his whole head, attended by dullneſs of hearing, which continued till he came into the hoſpital. His pulſe was 82, and rather weak. Body natural. Tongue white. He had a bad taſte in his mouth, and had frequent nauſea, which made me ſuſpect ſome affection of his brain. He was twice bled; was ordered the infuſ. amar. cum duplic. ſenna; had bliſters applied behind his ears, and to his temples; uſed pediluvia often; tried an infuſion of the carduus benedictus as a ſtomachic bitter; and took aether, and camphire; but all without effect, as the ſymptoms were ſometimes better, ſometimes worſe. He always appeared to labour under ſome oppreſſion. On the 34th

day

day of the diſeaſe, he was ſeized with a deliquium, fell down, had frequent ſtartings, but no convulſions. His extremities became paralytic, eſpecially the right arm. He became unable to ſwallow ſolids, but could ſwallow fluids, though with difficulty. His pupil was not dilated, his eyes were open, and he appeared to ſee. Pulſe 64, and rather weak. He anſwered no queſtions. His head was bliſtered. He took ten grains of the powder of ſcammony in the mucilage of gum Arabic; and it was repeated next day, but without any effect. He was tried with a mixture of aſſa foetida. He had oleum ſuccini applied to his ſpine. Clyſters were injected, which came off as ſoon as they were given. His pulſe quickened to 112; and he died the 4th day after he was ſeized in this way.

This is a frequent termination of headachs, ariſing from compreſſion. The pulſe pointed out this as the cauſe; on the ſuppoſition of which, ſtrong purgatives were ordered.

The whole veſſels on the ſurface of his brain were uncommonly turgid; and there was an effuſion of blood, about half an ounce,

ounce, between the pia matter and the tunica arachnoides, near the falx, in the left hemiſphere of the brain. The pia mater, and ſubſtance of the brain, above and below the place of effuſion, were conſiderably inflamed. The ſubſtance of the brain, tunica arachnoides, and pia mater, firmly adhered to each other, for a conſiderable ſpace, around the place of effuſion. In the ventricles, about an ounce of water was collected; and a numerous cluſter of hydatides adhered to each plexus choroides. Beneath the cerebellum, and around the medulla oblongata, there was a collection of near ſix ounces of water.

Effuſions of blood and ſerum, as in this caſe, are frequent cauſes of cephalalgia, as appears by Morgagni's and Lieutaud's diſſections. Theſe are certainly, in general, the cauſe; and not the effect of head-ach, as has been thought by ſome. The length of time the diſeaſe continued could be no objection, as blood, and other fluids are longer contained in other cavities. Nor, to this opinion, can the natural appearance of the fluids be objected, as their qualities are long of being altered, when preſerved

from the air. But they are often ſpoiled, as Morgagni mentions their ſharp taſte. Hence moſt of Lieutaud's caſes end in palſy, lethargy, apoplexy, epilepſy, or veſania.

Beſides this, there are other cauſes of this diſeaſe. Ulcers, and abſceſſes of the brain, dura and pia mater, are frequently to be found in Lieutaud's and Morgagni's diſſections. Accretions and oſſifications of the different parts of the dura mater, falx, and brain, are often diſcovered. An oſſification of the falx does not, however, always produce head-ach, as I had a caſe of part of the falx oſſified without head-ach; but the perſon had been obſerved, when drunk, to be very furious. Congeſtions of blood in the veſſels of the brain, as often diſcovered, muſt be a frequent cauſe, as well as effect of head-ach. Nervous irritation and affection will, alone, produce it, as we ſee from the clavus hyſtericus, and the head-ach in the beginning of fevers.

In the cure of this diſeaſe, we have little or no power over oſſifications, effuſions, or ulcerations, three of the cauſes given. In the other two, congeſtions, or nervous affection, we may be of ſome

aſſiſtance.

aſſiſtance. Hence we ſo often fail in its cure.

In congeſtion, we can relieve by, 1. an evacuation of blood, either general from any vein; or topical by the lancet from the temporal artery, by leeches or cupping from the temples, and by inſtruments, as mentioned by Aretaeus, applied to the noſe. 2. Errhines, which I have tried without much ſucceſs. 3. Topical evacuation, from or near the head, by a bliſter, iſſue, or ſeton. 4. Purgatives. 5. Determining the fluids to other parts, by rubefacients applied to the temples, pediluvia, &c.

Nervous irritation may be diminiſhed by, 1. a great quantity of cold water drunk every morning, as recommended by Hoffman, which will waſh off all acrid particles from the ſtomach, while the cold ſtrengthens, and diminiſhes the ſenſibility of the part. This remedy was tried for a conſiderable time, in one of the patients, but without any effect. 2. Nervous and tonic medicines, as the bark, valerian, &c. Theſe were tried in two of my patients without ſucceſs. In a third the valerian

ſucceeded,

ſucceeded. 3. Cold water applied to the head, by immerſion, or the ſhower-bath. 4. Cacuphae of cephalics, as lavender, roſemary, &c.

SECT. X.

Experiments upon Sir Hans Sloane's ointment in the Albugo or Leucoma.

When the cornea has loſt its pellucidity, ſo that viſion is hurt, the diſeaſe is called by moſt of the moderns, Albugo, and by Sauvages, Leucoma. Both names are taken from its whiteneſs, though it is often of a very duſky colour. It appears ſometimes as a ſingle ſpeck, while the reſt of the cornea is pellucid; ſometimes as a duſky cloud, covering all the cornea. This affection always ariſes from a previous long inflammation of the cornea, eſpecially where aſtringents have been too early, or of too great ſtrength, applied. It muſt be generally in the external coats, otherwiſe, neither the knife, nor external applications, could have any effect in curing it. As the cornea is of a lamellated ſtructure, the fluids are, perhaps, extravaſated between

tween the lamellae, and coagulate into a coat, as on the ſurface of different viſcera after inflammation. Perhaps, too, the fluids, in ſome of the ſmaller veſſels, may remain, and be concreted.

It is very difficult to remove; and the more ſo the whiter it is, as that colour is the effect of a thicker and firmer coat. I have tried, internally, a variety of aperients and deobſtruents; have given ſoap in great doſes, and for a long time; have uſed calomel and a ſolution of the corroſive ſublimate; have preſcribed the decoction of mezerion, a more powerful deobſtruent than mercury; but all without advantage. I have met with no better ſucceſs from external applications, fomentations of the emollient ſort; the vapour of ſuch bodies as emit volatile ſtimulating particles, as valerian, roſemary, &c. which are recommended by authors; ſaline eye-waters, as the ſolution of crude ſal ammoniac; and the bile of animals, which is mentioned by Hippocrates. I never had the courage to try the impalpable powder of glaſs, recommended by Dr. Mead. The manual operation is not in practice here; and cannot be

be performed, where there is a cloud inſtead of a ſpeck. I had recourſe, therefore, to Sir Hans Sloane's ointment.

EXPER. I. Dec. 2. 1776. Mary Smith, 19, has been ſubject to ophthalmia ſince ſhe was ſeven years old. The cornea of the right eye is very opaque, ſo that ſhe can ſee little with it; and that eye is much pained and inflamed. This affection ſeems to have ſubſiſted ſince ſhe was firſt attacked with ophthalmia, as ſhe never ſaw well with that eye. Head-ach. Pulſe 96. My firſt endeavour was to reduce the inflammation by bleeding, laxatives, bliſters, &c. 18th, Inflammation gone. ℞ Tutt. ppt. unc. ſs. lap. haemat. ppt. ſcrup. i. aloes ſuccotr. levig. gr. vi. Margarit. ppt. gr. ii. leviga optime ſimul & miſce cum axung. viper. q. ſ. ut fiat liniment. ophthalmicum. This is the receipt of Sir Hans Sloane's ointment. He thought that the vipers greaſe was a material article, as, when uſed alone, it appeared to him to be more ſucceſsful than oil of olives. To aſcertain whether this be ſo or not, would require more experiments than have yet been made. As there is no vipers greaſe kept

kept in this country, we were obliged to make uſe of hogs lard. When the ointment was firſt applied, it gave pain, and raiſed a degree of inflammation; and no wonder, when the inflammation was gone two days only. But, after applying leeches to the temple, ſhe was no more affected with any inflammation, though the eye always ſmarted when the ointment was applied. On the 5th day, the cornea appeared clearer. On the 22d, ſcarcely could the opacity be diſtinguiſhed.

EXPER. II. Feb. 11, 1778. Katherine M'Kenzie, 22, has been affected with inflammation of her eyes, and dimneſs of ſight, for ſix weeks. The cornea of each eye, at preſent, is opaque, eſpecially that of the left eye, with which ſhe ſcarcely ſees any. There appears to be a white ſpeck upon the cornea of the left eye, oppoſite to the pupil, and a ſlighter one on the right eye. Both eyes are inflamed and pained from light. After the inflammation of her eyes ſeemed to be reduced, ſhe began to apply the liminent on the 24th. But ſhe was attacked, at different times, with inſenſibility, difficulty of ſpeech,

ſwelling of her whole head, redneſs of her face, and great inflammation of her eyes, to all which ſhe had been ſubject before the ointment was applied. This determination to the head, which obliged me to ſuſpend the ointment, recurred often, notwithſtanding bleeding, phyſic, bliſters, and other remedies were uſed; nor did it diſappear till a ſeton was put into her neck. After this, the ointment was continued; the dimneſs gradually diſappeared; and, in two months and a half, when the clinical ward was ſhut up, ſhe was diſmiſſed, with both the corneae in a natural ſtate, excepting a ſmall ſpeck, leſs than the head of the ſmalleſt pin, on the left eye.

This ointment, therefore, appears to have cured theſe two patients. In another, it made ſome progreſs during the few days ſhe ſtaid with us. I cured a patient, in private practice, with it. We may, therefore, venture to affirm, that it is a medicine of much efficacy, in a diſeaſe otherwiſe incurable by medicine. The patients generally applied it only twice a day, if there was any tendency to inflammation; if not, as often as they pleaſed. It is or-

dered to be applied with a pencil; but our ointment was too hard for that; the patients, therefore, applied it with the point of their finger. It is improper to uſe it during inflammation, as it tends to inflame. But that effect may depend much on the degree of levigation, as the finer it is, the leſs apt it will be to ſtimulate. It cannot act by abſorption, as the tutty, pearl, and haematites, are not ſoluble in the lachrymal fluid; and there is too little of the aloes to have any effect that way. It muſt act mechanically by friction and detrition; and in this way abrading the external coats, where the coagulated lymph is ſituated. The os ſepiae and levigated glaſs are ſaid to cure it; and they can act in this way only.

SECT. XI.

Experiments upon Antiſpaſmodics.

There is a very numerous claſs of diſeaſes which ariſe from the involuntary contraction of the muſcular fibres, in whatever part of the body they are placed. Theſe

Theſe involuntary contractions are either continued, or they alternate quickly with relaxation. Hence, with regard to the ſymptoms of ſuch diſeaſes, a very material diſtinction is made; and the former are called Tonic, and the latter Clonic. But the remedies appropriated to the cure of theſe two different orders, and their genera, are, by authors, claſſed together; and Antiſpaſmodic is the name they receive, whether we conſider irritation or too great irritability alone, as the cauſe of theſe diſeaſes; or continued or alternate contractions, as the effects produced.

Theſe antiſpaſmodics have, indeed, been ſubdivided, from the nature of the diſeaſes which they cure, into Antiepileptica, Anticonvulſiva, Antihyſterica, Antiemetica, &c. But ſtill they are all treated of as fit to cure that whole claſs of diſeaſes. A diſcrimination, therefore, of them; ſettling their proper effects; aſcertaining their relative powers; fixing the particular diſeaſes in which they are beneficial, would be an uſeful, but an arduous taſk; too much, indeed, for one man, or perhaps for one age, ſo many having already elapſed,

and ſo little done to purpoſe. Each, however, may contribute his ſhare, by recording the trials he has made; for it is only from a number of experiments that any certain general rules can ariſe. I ſhall, therefore, ſelect a few of the trials which I have made. It is better to arrange theſe from the remedies uſed than from the diſeaſes in which they were preſcribed. The former is the moſt proper method of conſidering them; though the latter has been generally uſed.

FEAR.

Fear has often been employed by phyſicians as an antiſpaſmodic, in the cure of hiccup, hyſteria, convulſions, and of the ague before the bark was diſcovered.

EXPER. I. June 3, 1769. Elſpeth M'Leod, 22, has been, for ſome time, affected frequently each day with the globus hyſtericus, convulſions of her arms, and ſingultus. Her menſes are regular; and her pulſe is 72, and rather weak. She had been bled at the firſt attack, had taken a vomit, the tincture of rhubarb, muſk, aether, and laudanum, without ſucceſs. She got a

fright, and all the ſymptoms diſappeared for five days; but they returned.

I have tried it in the hyſteria, and in the ſingultus; but it either did not ſucceed, or the diſeaſe ſoon returned. This antiſpaſmodic is liable to many objections. In ſlighter caſes, it may do ſervice; but in ſeverer, it either does not ſucceed, or keeps off the ſpaſmodic affection but for a ſhort time. Its effects are various in different perſons, ſometimes ſevere, and not to be regulated by us. It is alſo obſerved to produce amenorrhoea.

BALNEUM FRIGIDUM.

The cold-bath has been uſed in ſeveral chronic ſpaſmodic caſes. Hence I tried it.

EXPER. II. George Drummond, Exp. CXXII. had a Hemitotonos Sauv. or convulſion of the whole left ſide. On his going into the cold water, which was contained in a bathing-tub, he was immediately ſeized with a ſevere fit. Two days after, he made uſe of the ſhower bath. But, immediately on receiving the ſhock, a moſt ſevere fit came on, in which the

right ſide was, for the firſt time, convulſed, the left much more than uſual, and a greater coldneſs ſeized his legs and feet.

VENAESECTIO.

Bleeding is juſtly claſſed amongſt the antiſpaſmodics.

EXPER. III. June 8, 1770. Anne Stalk, 19, has had her menſtrual diſcharge diminiſhed for a year, during which time ſhe has been ſubject to hyſteric fits, preceded by drowſineſs, nauſea, tremblings, and chillneſs; and attended by crying, laughing, convulſive motions, and inſenſibility. The epigaſtric region is ſore when preſſed. Her pulſe is regular. She was bled; and her blood was in a natural ſtate. She was ordered a vomit, rhubarb, the flowers of the cardamine pratenſis, and valerian, with no advantage; but ſhe took aether with ſome relief. On the 28th, inſtead of being convulſed, ſhe became rigid. Fiat venaeſect. ad unc. ix. Craſſamentum in ſmall proportion, and not adheſive. 30th, She has been eaſier ſince the bleeding. July 1ſt, She had a ſevere fit yeſterday. ℞ Pulv. Cort. Peruv.

Peruv. unc. i. valerian. ſilv. drach. iii. ſyr. zinzib. q. ſ. fiat elect. cap. quod aequat magnit. nuc. moſch. quater in die. 13th, She had a ſevere fit, after which ſhe loſt ſome blood from her noſe. I ordered her to be bled again; but, as the menſes appeared, it was not done. 19th, She had yeſterday many ſevere fits, ſince which ſhe has complained of a ſtitch in her left ſide. Intermitt. elect. & rep. venaeſect. ad unc. x. The blood did not ſeparate into craſſamentum and ſerum, but ſeemed to be of a looſe conſiſtence. After this, the fits gradually diſappeared, returned again a little about the menſtrual period, and afterwards they were ſeen no more. This caſe of hyſteria, though not attended with a ſtate of inflammation, but with one directly oppoſite, was cured by bleeding, which was indicated chiefly by the epiſtaxis.

EXPER. IV. May 19. Barbara Weſton, 20, on the 7th of May, had the menſtrual flux ſuddenly ſtopped on the 2d day. Next day ſhe was ſeized with cough, pain of her breaſt, and haemoptoe which laſted two days, during each of which ſhe ſpat about a pound of blood. The next two

days it was mixed with what ſhe expectorated, after which time it diſappeared. Since that ſhe complains of giddineſs, head-ach, dyſpnoea, palpitations, and the globus hyſtericus. Pulſe 112. Fiat venaeſect. ad unc. x. Blood in a natural ſtate. In a few days ſhe recovered.

It therefore appears, that bleeding, to which practitioners are generally averſe, is often neceſſary towards the cure of the hyſteria. It is advantageous, chiefly where this diſeaſe ariſes from amenorrhoea.

The idiopathic aſthma is certainly a ſpaſmodic diſeaſe. In the cure of the aſthma ſiccum, bleeding is known to be uſeful; but, in the aſthma humidum, it is eſteemed of doubtful effect, as the ſpitting, which is thought to be ſo eſſential, may be diminiſhed by it.

EXPER. V. December 7, 1776. Thomas Jones, 24, was, after ſlight haemoptoe from a ſtrain, ſeized, in the beginning of October, with great dyſpnoea, which increaſed much during the night, and was attended with plentiful expectoration. Pulſe 72. Fiat venaeſect. ad unc. viii. Breathing not relieved by it. He took

ſquills,

ſquills, calomel, and the Peruvian bark in vain. January 13th, He complained, for two days, of a pain amongſt the ſhort ribs of the left ſide, and had ſpitten a little blood. Pulſe 75, and rather ſtrong. Fiat venaeſ. ad unc. ix. Blood has ſome inflammatory cruſt. He was not much relieved by the bleeding.

EXPER. VI. December 13. Margaret Elder, 34, had the menſtrual diſcharge ſtopt for a year. For ſix weeks ſhe has had dyſpnoea, hoarſeneſs, pain of the left ſide, violent cough, with much expectoration, which had a little abated. She complains of a ſevere pain in her breaſt, on the left ſide, which next day ſhifted to the right. Pulſe 144. She had been bled on the 11th. Fiat venaeſect. ad unc. x. Blood has much inflammatory cruſt. After this the expectoration ſeemed to increaſe. But, notwithſtanding emetics, ſquills, laudanum, bliſters often repeated, and other medicines, ſhe died. On opening the body, the paſſage of the trachea was found to be much diminiſhed, by the ſwelling of the cartilages about the glottis. A polypus of a large ſize, and firm conſiſtence, was

was fixed to the anterior part of the right auricle, paſſed into the right ventricle, to which it adhered, entered the pulmonary artery, and even an inch into its two branches. There appeared to have been an inflammation and ſuppuration in the right auricle, at the baſe of the polypus.

EXPER. VII. November 28, 1778. David Bell, in a ſevere aſthma, with plentiful expectoration, was bled four times, and relieved after each bleeding.

EXPER. VIII. November 24. John Murray, 60, was ſeized with aſthma and plentiful expectoration, eight weeks ago. He was bled twice; and his breathing became much eaſier after it.

In theſe four aſthmatic caſes, bleeding was of no uſe in the two former; but alleviated the ſymptoms in the two latter.

It is not yet ſettled what effect bleeding has in the epilepſy.

EXPER. IX. May 29, 1770. Millar Logan, 11, ſubject to epileptic fits ſince the firſt of January. Pulſe 100, and weak. While he was attacked with one or two fits each day, June 30th, was bled to the quantity of ſix ounces. Blood in a natural

ſtate,

ſtate. He had a continual ſucceſſion of fits after it. Auguſt 2d, He was bled again. Blood a little inflammatory. The fits after bleeding were more frequent. He was evidently worſe after bleeding. Probably it muſt always be ſo when the pulſe is weak, which was the caſe in this boy. But it muſt be otherwiſe when the pulſe is ſtrong.

In the idiopathic ſingultus or hiccup, which is a convulſive motion of the diaphragm, bleeding I have found to be the remedy upon which we can beſt rely,

EXPER. X. February 29, 1776. Margaret Haig, 23, unmarried, of a ſanguine habit, was in the Infirmary three years ago, for an haemoptoe, and recovered in ſix weeks. She afterwards returned with haemoptoe, palpitations, and ſtomachic complaints; and was diſmiſſed in a month. She returned a third time, about a year ago, with haemoptoe and fever. She returned a fourth time, in May laſt, with hyſteric ſymptoms, as ſtartings, tinnitus aurium, palpitations, globus hyſtericus, and ſevere convulſive fits. At preſent ſhe is affected with conſtant pain in the left ſide,

ſide, attended with ſome convulſive contraction of the muſcles there, tickling dry cough, difficult reſpiration, head-ach, vertigo, thirſt, ſickneſs, eructations and cold ſweats. But her greateſt complaints are frequent fits of hiccup. She feels a coldneſs before the paroxyſm comes on. During it ſhe has a great pain acroſs the thorax and abdomen, and the head-ach is increaſed. She has a nauſea after it is over. Her body and urine are natural. The menſes are in ſmall quantity. Her pulſe is between 90 and 100, and rather ſtrong. Fiat venaeſect. ad unc. x. Blood natural. March 2d, She has been much relieved by the bleeding. Rep. venaeſect. ad unc. x. Blood ſizy. Pain eaſier. 4th, Pulſe 106, and ſtrong, ſtill complains of pains. Rep. venaeſ. ad unc. viii. Blood natural. 6th, The Menſes appeared, and diſappeared on the 7th. On the 9th they returned, and remained to the 11th; and on this day, after a quarrel with a companion, the hiccup returned, and continued for ſome hours. 12th, She had an hyſteric fit without hiccup. 16th, All complaints

were

were gone, and ſhe was diſmiſſed cured. Even then I thought her pulſe too ſtrong.

EXPER. XI. February 14. Peggy M'Intoſh, 24, unmarried, fair, and of a full habit, was formerly healthy; but received a ſtroke on the left ſide, about four years ago, ſince which ſhe has been affected with pain there, and oppreſſion about the præcordia, anxiety, flatulency, globus hyſtericus; but no hyſteric fits. For three months ſhe has been affected with cough, pain about the ſtomach, and with a great degree of flatulency. Her menſes are irregular as to time, quantity, and duration. About a week ago, ſhe was ſeized with ſevere hiccup, during which ſhe complained of acute pain about her heart, ſtomach, acroſs her ſides, and in the ſmall of her back. Even in the intervals, ſhe has thoſe pains. She is affected with head-ach, and great flatulency. Her pulſe, though at firſt ſomewhat quicker, was, during the courſe of her diſeaſe, rather ſlower than natural. For the hiccup ſhe took muſk, aſſafoetida, aether, laudanum, electricity, valerian, camphire; and Ward's volatile eſſence, theriac, and the antihiſteric plaiſter

were

were applied to the part, for ſix weeks, in vain. March 31ſt, She was ſeized with a ſevere cough, which increaſed the pain of her ſide. Fiat venaeſect. ad unc. ix. Blood natural. The hiccup after this went off; and ſhe was diſmiſſed cured, on the 5th of April.

Exper XII. April 2, 1778. Janet Kennedy, 42, married, and never troubled with any hyſteric complaint, about four years ago, was affected with amenorrhoea; and ſince that time ſhe has menſtruated thrice only. Half a year after, ſhe was often troubled with hiccup. About three years ago, ſhe was ſeized with difficult breathing, and a pain in the region of the ſtomach, and in the left ſide, immediately under the ſhort ribs. Theſe complaints continued for three months. About ſix months after this, ſhe was ſeized again with difficulty of breathing, which gradually came on, attended by oppreſſion about the praecordia. About two months ago, violent eructations of wind from the ſtomach began to affect her, which at preſent make the moſt apparent ſymptom of her diſeaſe, along with a loud noiſe in reſpiration, which ſeems to

ariſe

ariſe from convulſive motions of its organs. The wind appears to her to ariſe from the bottom of the abdomen, to the ſtomach and throat; and when it gets away, to ruſh out with great force, which relieves her for a ſhort time. If it ſtops before it gets out, as it ſometimes ſeems to do, for a ſhort time, ſhe feels as if about to be ſuffocated. After any paſſion or ſurpriſe, the eructations came on, and ſhe feels a conſtriction in her throat, and ſhe cannot ſpeak for ſome time. The abdomen is conſiderably tumified; but no fluctuation can be felt. She has pains in the right and left ſide, and in the back; which are, ſeemingly, in the courſe of the diaphragm. She has conſtant palpitations of heart; but her pulſe is neither irregular nor intermittent. It was 120 the day ſhe came in; but is, generally, about 96; it was always rather ſtrong, eſpecially for one of her habit and emaciation. Her menſes never appeared but once, ſince her laſt illneſs ſupervened. Her tongue is clean, and ſhe has but little thirſt; and no appetite. Body always coſtive. She got a laxative, and the vitriolic aether. 5th,

Cheeks red, and palms of her hands hot. Fiat venaeſect. ad unc. viii. ſix ounces only of blood were taken, which was ſizy. 6th, Breathing eaſier, and pulſe rather ſtronger. Rep. venaeſect. ad unc. viii. Blood in a natural ſtate, but the craſſamentum adheres firmly. 7th, The flatulency, dyſpnoea, pain in her ſide, even when it is preſſed, conſtriction of throat, and ſwelling of abdomen diminiſhed. 8th, Her pulſe is 110, and rather ſtrong. Rep. venaeſect. ad unc. viii. The ſerum appears to be turbid, but the blood otherwiſe is in a natural ſtate. 11th, The pains in the courſe of the diaphragm, and the ſwelling of the belly are gone. She feels only a conſtriction of the throat, and a ſtraitneſs of her breaſt when ſhe ſtoops. After this, we ſaw nothing but the common appearance of flatulency, from debility of her ſtomach, which continued, though ſhe got the bark. 27th, Diſmiſſed cured.

This patient, about three weeks after diſmiſſion, had a relapſe. She then complained of ſevere dyſpnoea, and was ſenſible of a reſiſtance to the entrance of the air into her throat; and her reſpiration was attended

attended by a harſh croaking ſound. Though the abdomen ſeemed to be rather tumified, ſhe did not feel as formerly the wind riſing from the inferior part of it; but was ſenſible of the ſtomach ſwelling on inſpiration. She was plentifully bled; but it afforded no relief. She took laudanum and ſpirit of hartſhorn without advantage. She complained of a pain at the pit of her ſtomach, to which a bliſter was applied, without giving her eaſe. She died in two weeks.

When opened, the paſſage through the larynx, below the ventricles, was much diminiſhed, and only an oblong ſlit left, through which a ſix-pence paſſed with difficulty. This was owing to a thickening of the internal membrane of the larynx; and the edges of the ventricles were much thickened. Their muſcles could not be diſtinctly obſerved. The thyroid gland was much enlarged, and was divided into two diſtinct lobes, lying on each ſide of the trachea. The lungs contained ſome frothy fluid. The ſuperior ſurface of the diaphragm was ſlightly inflamed, particularly at its union with the mediaſtinum.

There was no adheſion of the lungs to the pleura.

This was a curious ſpecies of ſingultus, under which, though it had ſome peculiar appearances, I arrange it; as ſhe had a diſtinct hiccup before the firſt attacks of her preſent complaints; as her pains were in the courſe of the diaphragm; as ſhe had a convulſive reſpiration; as ſhe could not ſpeak during the ſeverity of the fit, the diaphragm being ſo neceſſary to the voice; as paſſions and ſurpriſe induced the paroxyſm; and as it was attended with palpitations of the heart.

To cure this caſe of ſeeming flatulency by bleeding, appeared at firſt ſomewhat uncommon; and had I viewed that ſymptom as the principal complaint, I would not have bled her, as it generally ariſes from debility. But, on the 3d day, I ſaw the diſeaſe was of the inflammatory kind, for it proceeded from amenorrhoea; it began and was attended with violent pains in the breaſt, ſides, and back; her pulſe was ſtrong; the palms of her hands were hot; her cheeks were red that day; and her breathing was difficult. I attribute the

the whole of the cure not to the aether, but to the bleedings, as ſhe was manifeſtly eaſier after each.

From theſe three caſes, the following obſervations ariſe.

1. That the hiccup muſt be diſtinguiſhed, 1. Into ſymptomatic, in which form it generally is ſeen in fevers, gout, hyſteria, worms; and into idiopathic, in which pure ſtate it ſeldom occurs; on which account I have deſcribed theſe caſes fully. 2. Into acute, when there is a fever; and into chronic, where there is none. Hoffman properly made this diſtinction.

2. That women are moſt ſubject to this diſeaſe, as all the three patients are of that ſex. They are more irritable than men are, and very ſubject to deficiencies in the menſtrual diſcharge; to which cauſe, it is remarkable, the three foregoing caſes may be traced. On this account, the unmarried will generally be moſt liable to it, as being moſt ſubject to irregularities in that evacuation.

3. That head-ach, cough, flatulence, and pains in the courſe of the diaphragm, are the conſtant attendants of hiccup;

all which ſymptoms ſeem to ariſe from the ſeat of this diſeaſe, and from the nervous conſent of other parts with thoſe affected.

4. That bleeding was uſed with ſucceſs in all theſe caſes, and which, therefore, may probably be conſidered as a general remedy in the cure of idiopathic hiccup.

ELECTRICITY.

EXPER. XIII. Peggy M'Intoſh, Exper. XI. in ſingultus, received electrical ſhocks for four days. The firſt day, the hiccup immediately attacked her when ſhe came from the wheel. The third day, it returned while ſhe was electrified, from the fright, as ſhe imagined.

EXPER. XIV. James Finlayſon, Exp. XXVI. uſed, in the tremor palpitans Sauv. electricity for five days, without benefit.

In both theſe convulſive caſes, therefore, electricity failed.

EPISPASTICS.

That bliſters are antiſpaſmodic, in many caſes, as in ſpaſms of the inteſtines, epilepſy,

lepſy, &c. is unqueſtionable. That they are ſo in all, is not yet proved.

EXPER. XV. July 10, 1770. Hanaw Douglas, 18, regular in her menſtrual diſcharge, has been affected, for three weeks, with an almoſt continued hiccup, which is much increaſed, during the night, while ſhe is in bed. For a quarter of an hour before the fit comes on, ſhe is ſenſible of a ſwelling of her ſtomach, by which ſhe knows its approach. She feels much pain during the fit about the heart, and acroſs the ſhort ribs; and vomits frequently. The pyroſis very often attends its retreat. Body bound. Pulſe 72, and weak. She had already been ordered a vomit, and a bliſter to her ſtomach. She had another vomit, the infuſum amarum cum ſenna, muſk, aether, twenty-five drops of laudanum thrice a day, Peruvian bark, half a drachm of theriac, eight grains of camphire, which ſweated her, the hot bath, and the cataplaſma aromatica applied to the part; but all of theſe remedies had little effect, except the hot bath, which mitigated the diſeaſe. Auguſt 1ſt, applicet. empl. epiſp. perlongum coſtis ſpuriis, ſecundum nexum diaphragmatis.

The hiccup appeared no more, except ſlightly on the 4th. On the 6th, ſhe was diſmiſſed cured.

EXPER. XVI. Margaret Haig, Exper. X. had a bliſter applied to the ſame part, towards the latter end of the diſeaſe, which relieved her for three days. But the hiccup returned.

EXPER. XVII. Peggy M'Intoſh, Exp. XI. had a bliſter applied in the beginning of the diſeaſe. The ſymptoms abated for three days, but they afterwards recurred as bad as ever.

EXPER. XVIII. Janet Kennedy, Exp. XII. had a bliſter applied along the courſe of the diaphragm, to eaſe the pain ſhe had there. The pain was removed; but the convulſive breathing was not much affected by it.

Bliſters, then, as a complete cure of hiccup, have ſucceeded in one caſe only out of four. Was their ſucceſs, in that ſingle caſe, owing to the diſeaſe not being inflammatory? This is not probable, as in Exper. XVI. and XVIII. the inflammatory ſtate was removed by bleeding, before the bliſters were applied. It is more probable,

bable that, as in her the hiccup did not ariſe from amenorrhoea, it depended upon irritability, or ſome other topical cauſe, which admitted of relief by bliſters.

EXPER. XIX. Thomas Jones, Exp. V. was bliſtered for his aſthma; but without any good effect.

EXPER. XX. Margaret Elder, Exp. VI. affected with aſthma, after bleeding, had a bliſter applied to her back. Next day ſhe had another bliſter applied, on account of a pain under the left clavicle. The ſymptoms abated a little for a day or two, and ſhe expectorated more plentifully; but the diſeaſe recurred.

EXPER. XXI. Feb. 19, 1776. Elizabeth Muire, 47, ſubject for two years to aſthmatic complaints, was ſeized laſt November with a fit, attended with groſs expectoration, which ſhe got up difficultly, cough, pain of her ſides, and orthopnoea. Pulſe 78, and of natural ſtrength. After taking a vomit, a laxative, and the mixture of ſquill vinegar, ſhe was bliſtered on the 26th, but felt no relief from it.

EXPER. XXII. Feb. 10, 1778. John Johnſtone, 60, corpulent, was ſeized, two

years ago, with cough and white viſcid expectoration, which has continued ever ſince. About ſeven weeks ago, he felt pains darting acroſs his breaſt. At preſent, he complains of cough; of ſevere pains in his breaſt, which are worſe in bed, and attended by plentiful expectoration of mucous matter; and of dyſpnoea and orthopnoea, which are increaſed in moiſt and calm weather. He cannot lie on his back or on his left ſide; but eaſily on his right ſide or belly. Urine pale. Pulſe from 84 to 90, and of natural ſtrength. Fiat venaeſ. ad unc. viii. Blood in natural ſtate. Was ordered a mixture made of the vinegar of ſquills. 15th, Pain of the breaſt ſtill continues. Rep. venaeſ. ad unc. ix. Blood in natural ſtate. Applic. empl. epiſpaſt. inter ſcapulas. 17th, Pulſe 96, and of natural ſtrength in the right arm; but it is weaker in the left. He lies always on his back. His belly is ſwelled. Expectoration brought up with more difficulty. The pain of the breaſt and dyſpnoea ſtill continue. Wine ordered. 18th, Pulſe 124, and weak. Great dyſpnoea. Hands tremble. Abdomen much tumi-

fied; but no fluctuation can be felt. He paſſes his urine involuntarily, inſenſibly, and in great quantity. Aplicet. empl. epiſpaſt. pect. 19th, Died this morning. When opened, the inteſtines were much diſtended with air. The liver was ſmall; and the lungs adhered to the pleura all around, and to the diaphragm, pericardium, and mediaſtinum. Every other part was found in a natural condition. As we find no other cauſe of aſthma but the extenſive adheſion, and as the ſymptoms differ in appearance from the common aſthma, I am inclined to think that the adheſions were the cauſe, and not the effect, of his diſeaſe. This is probably a new ſpecies, not mentioned by Sauvages. In none of Morgagni's diſſections, where ſuch adheſions are found, do I remember any difficulty of breathing. But there are many in Lieutaud; and one poſitive overbalances many negative proofs.

In theſe four aſthmatic caſes, bliſters did no real ſervice. But we muſt allow, that the laſt caſe of aſthma is to be attributed leſs to ſpaſm than to adheſion, in which bliſters could be of no advantage.

EXPER.

EXPER. XXIII. Eliz. Donaldſon, Exp. CXVII. affected for eleven days with dyſphagia, or ſpaſm of the oeſophagus, had a bliſter applied to her back, directly oppoſite to the place where ſhe felt the pain. The difficulty of ſwallowing ſeemed to be rather increaſed the next day. Another antiſpaſmodic cured it, as we ſhall afterwards ſee.

On the whole, bliſters do not appear to be powerful antiſpaſmodics, in the above liſts of ſpaſmodic diſeaſes.

VALERIAN.

We now proceed to internal medicines. Since Fabius Columna's time, who cured himſelf of an epilepſy by valerian, it has been in great requeſt. But, as generally happens, authors have related their ſucceſsful, not their unſucceſsful attempts with it; ſo that, without having fixed its value, we proceed blindly, preſcribing what will very often not anſwer.

EXPER. XXIV. May 14, 1769. Margaret Smart, 22, regular in the appearance of the menſtrual flux, has been ſubject, for

for ſix years, to epileptic fits, which ſhe thinks were firſt owing to a fright. The fits laſt about a quarter of an hour, of which ſhe had ſix to day. She has ſometimes a ſevere ſtitch in her right ſide. Pulſe 76, and rather weak. ℞ Pulv. valer. ſilveſt. drach. ſs. pro doſ. cap. quater in die. 18th, Fits leſs frequent. Repet. pulv. val. ſilv. quinq. in die. 22d, Cap. pulv. val. ſilv. ſcrup. ii. quinq. in die. 24th, Had nine fits this day; ſo the medicine was given up.

EXPER. XXV. Dec. 3, 1774. Janet Lyon, 24, has her menſes regular, though in ſmall quantity, and is ſubject to globus hyſtericus, ſlight convulſive fits, ſwelling of ſtomach, frequent vomiting of food in an acid ſtate. Pulſe 70, and weak. She had the tinctura ſacra often, caſtor, bark, tinctura curſutae, laudanum, theriac plaſters to her ſtomach, and aether, in vain. Jan. 6th, Cap. pulv. valer. ſilv. drach. ſs. quater in die. 8th, Cap. pulv. valer. ſilv. ſcrup. ii. quater in die. 9th, The doſe was augmented to a drachm. 11th, Complaints no better; ſo the valerian was omitted.

EXPER.

EXPER. XXVI. Feb. 10, 1776. James Finlayſon, 22, ſubject to palpitations of his heart for two years, has been, for ſix weeks, affected with convulſive motions, or palpitations of the different muſcles over all his body, ſeizing different parts at different times. Pulſe 100, and weak. He began with half a drachm of valerian, and came to take a drachm, four times a day. But, on the 25th, it was given up, as he was no better.

EXPER. XXVII. Peggy M'Intoſh, Exp. XI. in hiccup, began with a drachm of valerian, four times a day, while her pulſe was 64, and ſoft; and on the 3d day ſhe took two drachms, four times a day. She uſed it ten days without ſucceſs.

EXPER. XXVIII. January 30, 1776. Thomas Paterſon, 41, ſubject to rheumatiſm, has been affected for three months with a violent head-ach, which is ſevereſt after mid-day. Having taken a doſe of phyſic, he began to take a drachm of valerian, four times a day, for ſix days, without ſucceſs.

EXPER. XXIX. March 27, 1778. Iſabel Buchannan, 53, was affected for two months

months with vertigo and palpitations of her heart. Pulſe 72, and rather ſtrong. She had been bled, and it was now repeated. She took valerian to the quantity of a drachm and a half, four times a day. In eleven days ſhe was diſmiſſed cured. The bleeding may claim the merit of this cure, as well as the valerian.

EXPER. XXX. December 21, 1778. Thomas M'Claren, 18, has been affected with chorea Sancti Viti for three weeks. He had half a drachm of valerian four times a day; and by degrees it was augmented to a drachm. On the 4th day after he began to take it, all his complaints were better, the convulſions diminiſhed, his walking became more ſteady, his ſpeech plainer, and his deglutition natural; but his ſtartings during ſleep ſtill continued. On the 11th, the convulſions were almoſt gone, and he had no ſtartings or palpitations. But his recovery did not advance after this, and he was cured by the bark.

EXPER. XXXI. January 15, 1779. Janet Wilſon, 15, was ſeized with a chorea Sancti Viti a fortnight ago, after expoſure to cold and a fright. She got a drachm

of

of valerian four times a day, for four days; but without any effect.

EXPER. XXXII. November 26, 1778. Joſeph Harley, 14, had laboured for ſeveral weeks under a Catalepſis. He took two ſcruples of this medicine, four times a day, for ſix days, at the end of which time he was ſeized with a fit much more approaching to the epilepſy, than any of the preceding. The medicine was then given up.

In the preceding caſes, the valerian has been remarkably unſucceſsful. The ſituations appeared ſuch, as I ſhould have imagined would have been favourable to its operation, as they were of the debile kind. For, probably, when it does ſervice, it acts as a bitter tonic, as it is of the nature of ſerpentary. It ſtimulates; and therefore muſt hurt in inflammatory caſes. Though much uſed at preſent, it has always appeared to me a weak, often a hurtful medicine.

MUSK.

Muſk was uſed by the antients and Arabians; and, ſince our intercourſe with China,

China, has been much preſcribed by the moderns, eſpecially in convulſive diſeaſes. But we have, perhaps, over-rated its value.

EXPER. XXXIII. Margaret Smart, Exp. XXIV. June 14, began, for epileptic fits, the muſk, of which ſhe took fifteen grains, diſſolved, by the mucilage of gum Arabic, in a mixture, morning and evening. 31ſt, Had ten fits, ſo it was given up.

EXPER. XXXIV. Elſpeth M'Leod, Exp. I. in hyſteria and ſingultus, had fifteen grains of muſk, thrice a day, for five days; at the end of which time her hyſteric ſymptoms were worſe, and her hiccup as ſevere.

EXPER. XXXV. May 22, 1770. Chriſtian Young, 24, regular as to the appearance of her menſes, being ſuddenly cooled when overheated, five months ago, has, ſince that time, had a pain in the hypochondria. She is now ſeized with frequent fits, which begin with convulſive motions of the abdominal muſcles, and are ſoon followed by hiccup, and a convulſive motion of the under jaw. The paroxyſm laſts about five minutes, during which the

pulſe

pulſe is very quick, and not eaſily numbered. Any ſurpriſe brings it on; and, when in the paroxyſm, a ſurpriſe carries it off. She is ſeldom attacked while in bed. She began with ten grains of muſk, in mixture, thrice a day; which were ſoon increaſed to fifteen grains. Neither the pulſe, nor heat of the body, were altered by the muſk, as appeared by two experiments which were made on her. It was continued to the 28th; but without any ſucceſs.

EXPER. XXXVI. Hanaw Douglas, Exp. XV. in the hiccup, took the above doſes of muſk, for three days, without any effect.

EXPER. XXXVII. Peggy M'Intoſh, Exp. XI. for the hiccup, was ordered muſk in a mixture; but, though it gave ſome temporary relief, the diſeaſe always returned.

EXPER. XXXVIII. March 14, 1776. Anne Cameron, 30, who has her menſes regular but in ſmall quantity, has been affected, for fourteen months, with the ſenſation of a ball in her throat, convulſive ſtartings over her whole body, and pain in her

her right ſide, back and head. Theſe complaints come in paroxyſms, in which ſhe knows what is doing around her. During theſe, her pulſe is much quickened. After trying aſſafoetida, laudanum, and calomel, till her mouth was affected, and ſhe ſpat a little, ſhe began the muſk; but to no purpoſe.

Theſe ſix caſes, purely ſpaſmodic, in which muſk was exhibited, without one of them being cured, cannot afford us a very favourable opinion of its antiſpaſmodic powers. We own, that this medicine is often adulterated. But, then, the doſes given were very conſiderable, and able to make up for any deficiency from adulteration. We ſee, from Exper. XXXV. that it neither quickens the pulſe, nor increaſes the heat of the body; ſo that, in feveriſh caſes, we need not be afraid of ſuch effects.

CAMPHIRE.

This medicine is not ſo often uſed as the former in ſpaſmodic caſes; but, whether on juſt grounds, is ſtill left to be decided by experiment.

EXPER. XXXIX. July 23, 1769. Katherine Innes, 22, obſtructed for ſeven weeks, was ſeized lately with head-ach, globus hyſtericus, dyſpnoea, fits of crying and laughing, nauſea, acidity of ſtomach, pain in her left ſide, and at times a little haemoptoe. Pulſe 100, and rather ſtrong. She was bled, and had phyſic. Afterwards, ſhe began to take ſeven grains of camphire diſſolved in the mucilage of gum Arabic, thrice a day. Her pulſe became ſlower after each doſe; but the heat of her body was not altered. The doſe was afterwards increaſed to ten grains. 29th, Pain of her ſide and head-ach eaſier, and ſhe ſleeps better. Auguſt 2d, diſmiſſed cured.

EXPPR. XL. Barbara Weſton, Exper. IV. who owed her cure in hyſteria chiefly to bleeding, had, after venaeſection, ten grains of camphire, diſſolved, thrice a day. Perhaps a part of the cure may be imputed to it.

EXPER. XLI. Jan. 6, 1775. Jean M'Lauchlan, 20, menſes regular, but in ſmall quantity, had been in the Infirmary before for tremors and hyſteric fits, and

was

was cured chiefly by camphire. She now took laudanum, aſſafoetida, aether, bark, &c. without effect. She was ordered camphire, and took it for five days, but without advantage.

EXPER. XLII. James Finlayſon, Exp. XXVI. in Tremor Palpitans Sauv. took camphire in a julap, for three days; but without ſucceſs.

EXPER. XLIII. Peggy M'Intoſh, Exp. XI. for the hiccup, was preſcribed camphire in a julap for nine days. She was much relieved at firſt by it; but the diſeaſe returned again.

EXPER. XLIV. Janet Kennedy, Exp. XII. towards the latter end of her hiccup took the camphire julap with ſome advantage. But it was given up, as it ſeemed to increaſe her flatulence.

From theſe ſix caſes, we may conclude;

1. That camphire has ſome merit as an antiſpaſmodic in the hyſteria and hiccup, and that it is more powerful than muſk.

2. That it is chiefly uſeful in the inflammatory ſpaſmodic caſes; as it makes the pulſe ſlower, and rather cools; and, as the ſucceſs of it in the XXXIX. XL.

XLIII. and XLIV. experiments, which were all of that kind, ſhow; while the XLI. and XLII. experiments, where it was unſucceſsful, were of the contrary kind.

3. That its antiſpamodic effects are not of long duration; and the diſeaſe is apt to recur, as appears by the XLI. and XLIII. experiments.

CASTOR.

Caſtor is much uſed as an antiſpaſmodic. But, on what foundation ſuch practice is built, is ſtill to be enquired into.

EXPER. XLV. May 14, 1769. Eliſon Graham, 15, and who has not yet menſtruated, has been, for two months, attacked with hyſteric paroxyſms, twice or thrice a day, along with acidity and flatulence of ſtomach. Pulſe 86. Cap. pulv. caſt. Ruſſ. ſcrup. i. ſyr. q. ſ. ut fiat bol. mane & veſper ſumend. In two different trials, her pulſe became conſiderably ſlower after the bolus; but her heat remained the ſame. She continued to take this medicine for three days without any effect.

EXPER.

EXPER. XLVI. Auguſt 4, 1770. Anne M'Donald, 20, after expoſure to cold, was ſeized with an eruption like that produced by nettles, which alternately appeared and diſappeared. In eight days, it went away, and ſhe was attacked with pain, acidity of ſtomach, palpitations of her heart, eſpecially on walking, head-ach, and globus hyſtericus. Pulſe 56. She had a vomit, and then a ſcruple of caſtor thrice a day. Her pulſe became ſlower after the medicine, but the heat of her body continued the ſame. 6th, Much better. Pain of right ſide. Applic. emp. calid. Ph. Paup. 9th, Former complaints gone. After this, ſhe was ſeized with gentle hemoptoe.

EXPER. XLVII. Janet Lyon, Exper. XXV. with hyſteric complaints, took a ſcruple of caſtor, firſt twice, then thrice a day for five days; but without effect.

From the above experiments, this medicine appears not to be worthy of the confidence we put in it, nor one upon which we can have much reliance. At the ſame time, it ſeems to be not only ſafe in ſpaſmodic feveriſh caſes, but uſeful, as it makes the pulſe ſlower, and acts as a

ſedative. Hence its powers of giving ſleep.

ASSA FOETIDA.

This medicine has been one of the moſt frequently employed antiſpaſmodics for many years. Let us view its powers.

EXPER. XLVIII. Auguſt 6, 1770. Margaret Emery, 18, menſtruates copiouſly every 8 or 14 days. She was attacked, on the 2d, with hyſteric fits, which are frequent, but of ſhort duration. Pulſe 76, and of natural ſtrength. After a vomit, ſhe was ordered the foetid pills, which were changed on the 13th for a mixture of aſſafoetida of which ſhe took a drachm a day. 16th, No fits for three days. 20th, Diſmiſſed cured.

EXPER. XLIX. Feb. 14, 1773. Margaret Pettie, for globus hyſtericus, dyſpnoea, and retraction of the abdomen, took a ſcruple of aſſafoetida, thrice a day. It always excited violent vomiting, even although forty drops of laudanum were added to each doſe.

EXPER. L. March 10. Anne Gordon, 33, has been affected, for ſix years, with hyſteric

hyſteric paroxyſms. They attack her once a day ſince the 5th. Pulſe 86. Menſes regular. A mixture of aſſafoetida was preſcribed, and ſhe gradually recovered; ſo that in a few days ſhe was diſmiſſed cured.

EXPER. LI. Dec. 11, 1774. Margaret Sommerville, 36, obſtructed for four months, was, ſix weeks ago, ſeized with hyſteric fits, ſwelling of her ſtomach, vomiting, and coſtiveneſs. Pulſe 100. Took a ſcruple of aſſafoetida diſſolved, four times a day. 12th, Complains that ſhe is ſeized with pains in her ſtomach after each doſe. 15th, Body more open. All complaints gone, excepting the ſwelling of her ſtomach, and pain of the back.

EXPER. LII. Janet Lyon, Exp. XXV, was ordered an ounce of the julapium foetidum of the Pharm. Paup. with ten drops of laudanum in each doſe. She took it for three days, but thought herſelf worſe during the uſe of it.

EXPER. LIII. Dec. 25, 1778. Janet M'Donald, 12 years old, was ſeized, after a fright, about three weeks ago, with hyſteria. She took the powder of orange leaves, camphire, and bark, but without

effect. At laſt, aſſafoetida given to the quantity of a ſcruple a day, ſtopped her fits, and cured her diſeaſe.

EXPER. LIV. Elizabeth Donaldſon, Exper. CXVI. in dyſphagia, took a ſcruple of aſſafœtida, thrice a day, with laudanum and had clyſters of it often; but without much effect. I thought it was of uſe before to a Lady, in the ſame diſeaſe.

Though not always ſucceſsful, this medicine ſeems to enjoy conſiderable antiſpaſmodic powers. As it heats and quickens the pulſe, it muſt always be improper in inflammatory caſes. With ſome, from peculiarity of conſtitution, it ſeems to diſagree, and to excite pain in the ſtomach and vomiting. The former ſituation may be known before, the latter can be known only after the exhibition of this medicine.

SPIRITUS AETHEREUS VITRIOLICUS.

Aether is at preſent, much uſed as an antiſpaſmodic. Let us, therefore, conſult our caſes, to ſee what judgment is to be formed of its powers.

EXPER.

EXPER. LV. Eliſon Graham, Exper. XLV. in hyſteria, May 23d, began the uſe of aether, in the quantity of a tea-ſpoonful in a gill of water, twice a day. When juſt given before the fit, which came on twice a day, at ſtated times, it put it off for an hour. After the fit had actually begun, the aether ſuſpended it for 20 minutes. 27th, Fits leſs frequent. Takes aether thrice a day. 28th, Takes it four times a day. June 2d, She has but one ſlight fit a day. 6th, Is ordered ſix doſes a day. 8th, Fits almoſt gone. Took ſome tonics.

EXPER. LVI. Elſpeth M'Leod, Exp. I. with hyſteria and hiccup, was ordered a tea-ſpoonful of aether every fifth hour. She took but two doſes, as each was attended with convulſions; ſo ſhe got no more.

EXPER. LVII. April 13, 1774. Janet Robert, 30, obſtructed for a year, was ſeized, about two years ago, with globus hyſtericus, dyſpnoea, and vomiting. She was preſcribed an emetic, a purgative, and the foetid pills. 18th, She began to take a tea-ſpoonful of aether, four times a day,

in

in water. She thinks that it excites a warmth in her ſtomach, and eaſes the pain there. On the 21ſt, hyſteric complaints no better; ſo the aether was given up.

EXPER. LVIII. Feb. 28, 1776. Helen Colvill, 19, ſubject to hyſteric fits for four years, took aether for four days; but was no better.

EXPER. LIX. Anne Cameron, Exper. XXXVIII. in hyſteria, took aether four times a day, for ſeven days. It often removed the paroxyſm after it had begun; but the diſeaſe was not cured.

EXPER. LX. March 2, 1778. Betty Edmonſtone, 18, obſtructed for ſix months, was ſeized, five months ago, with globus hyſtericus, ſhivering, convulſions of the whole body, and ſtarting during ſleep. Pulſe 80, and of natural ſtrength. She began with one tea-ſpoonful of aether, which was gradually increaſed to four, four times a day. It ſometimes raiſed a pain in her ſtomach. After the 8th, no hyſteric fits appeared.

EXPER. LXI. November 24. Grace Williamſon, 25, in hyſteria, took three tea-

tea-ſpoonfuls of aether, four times a day. It cured her.

EXPER. LXII. Janet M'Donald, Exp. LIII. was ordered two tea-ſpoonfuls of aether for a doſe, four times a day. It often ſtopped her fits, but did not cure her.

EXPER. LXIII. December 12, 1776. Jean Sutor, 12, has been ſubject to epileptic fits for four years. They come on with vertigo and remarkable coldneſs of hands and feet. In the fit ſhe is inſenſible, and has great variety of convulſive motions. It laſts about a quarter of an hour, and returns frequently each day. Head-ach. She has paſſed worms, and has ſome worm ſymptoms at preſent. I therefore began her with vermifuge medicines, ſuch as the ſpigelia Marylandica, powder of tin, &c. But theſe not ſucceeding, I ordered aether on the 21ſt, for her convulſive ſymptoms. About three minutes after each doſe, her belly ſwelled, and became harder. In five minutes it returned to its natural ſtate. 27th, She paſſed a lumbricus worm; and next day another. After this ſhe had no more fits, and was ſoon diſmiſſed cured. A few days afterwards

wards ſhe was ſeized with a pain in her belly, and convulſive motions of her arms. She came in again; took aether; the ſtartings went off; and ſhe paſſed another worm in two days. I then looked on the convulſive ſymptoms as proceeding from worms, which were killed by the aether. But having afterwards tried the aether, in three caſes, where the ſymytoms appeared to proceed from worms, and the aether not ſucceeeding, I have ſince ſuſpected that the caſe was epileptic, and that the worms came away when the diſeaſe retired, as they often do in other caſes.

EXPER. LXIV. Margaret Smart, Exp. XXIV. in epilepſy, took aether for ſeven days, but without any effect.

EXPER. LXV. G. Drummond, Exp. CXXII. in a hemitononas Sauv. took aether to the length of four tea-ſpoonfuls, four times a day. The left ſide of his head, where he complained of a pain before the fit came on, was rubbed with it thrice a day. He drew it in likewiſe by inſpiration. But, after a fair trial, he ſeemed to become rather worſe.

EXPER. LXVI. Peggy M'Intoſh, Exp. XI. was preſcribed it for her hiccup; but it did her no ſervice.

EXPER. LXVII. Janet Wilſon, Exp. XXXI. took it in chorea St. Viti, but without ſucceſs.

EXPER. LXVIII. Janet Kennedy, Exp. XII. in the inflammatory ſpecies of hiccup was ordered aether from the beginning. I am not ſure that it did her any ſervice, ſo the bleeding got all the merit of the cure. But I am ſure the aether did no harm, which it muſt have done, had it been of a ſtimulating nature. Hence we learn, that it will not increaſe the febrile inflammatory ſtate.

EXPER. LXIX. November 28, 1778. David Bell, 24, in an inflammatory aſthma, took a tea-ſpoonful of it four times a day, which doſe was by degrees increaſed to three tea-ſpoonfuls. It was continued for twelve days and got a fair trial. During the uſe of it his complaints were not alleviated; but on the contrary, they ſeemed to become rather worſe, as his expectoration was in much greater quantity, and as he had regular cold fits.

This

This medicine, therefore ſhows ſome powers in curing the hyſteria. Of eight, it cured three, and relieved two. It is commonly obſerved that its effects are quick; and that if it does not cure in two or three days, it will not after that time. I think likewiſe, that the effects ſoon diſappear, and we can ſcarcely truſt a cure performed by it. We find that its good effects are not increaſed by increaſing the doſe, as the above cures were performed with ſmall doſes, while the largeſt did not ſucceed. I have not yet ſeen it ſucceed in any other ſpaſmodic diſeaſe, Exp. LXIII. excepted, if in that the diſeaſe was idiopathic, which was probable. It appears to be a medicine of the ſedative kind; and from Exp. LXVIII. not to be hurtful in inflammotory caſes, which, if true, is a uſeful diſcovery. In ſome conſtitutions, however, it excites pains in the ſtomach, and convulſions.

CORTEX PERUVIANUS.

This medicine is uſed in a great variety of ſpaſmodic and convulſive diſeaſes. Let us endeavour to aſcertain its value.

EXPER.

EXPER. LXX. June 9, 1770. Edward Oliver, 18, after a fright, has been for eight years ſubject to epileptic fits, which generally attack him when aſleep, and he has been fatuous for near two years. His fits are often ſtopped by raiſing his head from the pillow, and it does not awake him. He took the bark for almoſt a month, and his fits became very ſlight, and returned but ſeldom.

EXPER. LXXI. February 6, 1778. Iſabel Buchannan, 18, while convaleſcent after a fever, was ſeized with hyſteria. She took the bark and recovered.

EXPER. LXXII. Chriſtian Young, Exp. XXXV. in hyſteria, was ordered to take the bark, with a little pulv. cardam. min. and ſal martis, which ſhe continued for three weeks, and recovered.

EXPER. LXXIII. April 14, 1774. Robert Bain, 21, has been affected with epileptic fits for theſe two years. Took bark, with valerian, for ten days, and was much relieved by it.

EXPER. LXXIV. Peggy M'Intoſh, Exper. XI. affected with hiccup, had the bark for five days, but ſhe was no better.

EXPER. LXXV. Thomas M'Claren, Exp. XXX. in chorea St. Viti, was cured by the bark.

EXPER. LXXVI. Janet Wilſon, Exp. XXXI. in chorea St. Viti, had her convulſive motions very much relieved by it.

EXPER. LXXVII. Joſeph Harley, Exp. XXXII. in the catalepſis, was much relieved by it.

Thus the bark appears to be an excellent remedy in pure ſpaſmodic diſeaſes. But, as it is hurtful in all inflammatory ſituations, we muſt take care that ſuch a ſtate of the body does not accompany the diſeaſe, when that medicine is ordered. All the ſeven, in which it was ſucceſsful, were of the anti-inflammatory kind.

ARTEMISA.

EXPER. LXXVIII. January 21, 1777. Margaret Gray, 36, hath been for many years affected with hyſteric fits. After aether and aſſafoetida had been tried in vain, I ordered a drachm of the powder

powdered leaves of the artemeſia, four times a day. In a few days the fits diſappeared.

PEONIA.

The root of this plant was much uſed by the antients as an antiepileptic; and Galen ſays that it cures the diſeaſe, though hung only round the neck. Such praiſes deſerved attention.

EXPER. LXXIX. Millar Logan, Exp. IX. had half a drachm of it, four times a day. His fits became much leſs frequent, for ſome days. But, on the 8th day, he had many fits, ſo it was given up.

EXPER. LXXX. Margaret Smart, Exp. XXIV. in epilepſy, took it in ſame way, for eleven days. But without effect.

VISCUS QUERCINUS.

The miſletoe was long in eſtimation for curing the epilepſy.

EXPER. LXXXI. Margaret Smart, Exp. XXIV. had two ſcruples of the powder of this medicine, at firſt thrice, and at

laſt five times a day, for eight days, but without ſucceſs.

EXTRACTUM HYOCYAMI.

EXPER. LXXXII. The preceding patient was ordered at firſt a grain of the extract, twice a day; and then two grains, for fourteen days. It ſometimes raiſed a nauſea, but had no ſenſible effect in increaſing the number of her ſtools. On the laſt day ſhe had ſix fits, which made me give it up.

EXPER. LXXXIII. George Drummond, Exper CXXII. in hemitotonos, took a grain of the extract of the ſeeds of the hyocyamus, thrice a day, and then two grains for ſix days; but the fits never abated. It produced thirſt, with dryneſs and heat in the throat.

EXPER. LXXXIV. March 16, 1778. Janet Burn, 21, has been ſubject, for two months, to globus hyſtericus, fainting fits, and frequent vomitings, attended often by haematemeſis. After bleeding, cold water uſed externally and internally, the tincture of roſes, laxatives, &c. were employed in vain,

vain, I ordered this medicine. She began with a grain four times a day, and came at laſt to take eight grains each time. The ſmalleſt doſes were attended with nauſea; the greater doſes produced vertigo, and dimneſs of ſight. She continued this medicine for twenty days, but without ſucceſs in the cure of the hematemeſis, or even of the ſimple vomiting.

Hence, notwithſtanding Stork's trials, it neither appeared to me antiſpaſmodic, nor antihaemorrhagic.

FOLIA AURANTIORUM.

De Haën and Hannes have recommended this in the epilepſy.

EXPER. LXXXV. Miller Logan, Exper. IX. in epilepſy, took at firſt a ſcruple and then half a drachm of this medicine, four times a day, without any ſucceſs. It produced no ſenſible effects.

EXPER. LXXXVI. Dec. 4, 1778. William Falconer, 50, affected with epilepſia for ſix years, was ordered to take from half a drachm to a drachm of it, four times a day; but without any ſucceſs. Nay, he took by miſtake, at once, five doſes of

a drachm each, without producing any ſenſible effects.

EXPER. LXXXVII. Janet M'Donald, Exper. LIII. in hyſteria, took it from a ſcruple to a drachm for a doſe, four times a day, and for ten days, but without ſucceſs.

Theſe experiments incline me to call in queſtion the antiſpaſmodic power of this medicine.

CARDAMINE PRATENSIS LIN.

This plant, eſpecially its flower, has been mentioned by Dale, and in the Medical Tranſactions, as good in convulſive and ſpaſmodic caſes.

EXPER. LXXXVIII. July 5, 1769. Daniel Donaldſon, 65, has been attacked, for fifteen months, with convulſive motions in his legs, arms, and abdominal muſcles, which deprive him of his ſpeech; but during the fits he retains his judgment. Cold, quick motion, and ſurpriſe, increaſe his diſeaſe. On preſſing the parts below the cartilago enſiformis, convulſive motions of the abdominal muſcles are excited. Pulſe 84, and weak. After a vomit, he

was ordered pulv. flor. cardamin. ſcrup. ii. mane & veſpere. After he had continued to take this for five days, his fits were as frequent as uſual.

EXPER. LXXXIX. Edward Oliver, Exper. LXX. took, during four days, half a drachm of it, twice a day, for the epilepſy; but without ſucceſs.

EXPER. XC. Anne Stalk, Exper. III. had a ſcruple of this medicine twice a day for ſix days. The hyſteric fits were leſs frequent at firſt; but, on the laſt day, they recurred as often as when ſhe firſt began to take it.

As this medicine is not kept in the ſhops, I was obliged to ſend ſome people to gather it. I was therefore, ſupplied with a ſmall quantity only, ſo could not afford greater doſes, or try it in more caſes. It has not, in the above experiment, ſucceeded with me; and I ſhould not, from its genus, be much inclined to expect great ſucceſs from it.

OPIUM.

Opium is reckoned one of the moſt powerful antiſpaſmodics.

EXPER. XCI. Margaret Smart, Exper. XXIV. epileptic, and often ſeized with the fits during her ſleep, took eight grains of the Pill. Matth. in the afternoon, and again at bed-time. Next morning, ſhe had a ſevere fit.

EXPER. XCII. Miller Logan, Exp. IX. who had many fits during the night, was preſcribed at firſt, fifty, and then eighty drops of the paregorick elixir, four times a day. He took it for five days, and the laſt day had nine fits.

EXPER. XCIII. George Drummond, Exper. CXII. was affected with convulſio, for which he was ordered calomel. In each bolus, which he took always once, and ſometimes twice a day, he got two grains of opium, for ten days. But it had no effect, except diminiſhing the purgative powers of the calamel.

EXPER. XCIV. Chriſtian Young, Exp. XXXV. in convulſive fits, took ſixty drops of laudanum, at firſt thrice a day, then four times a day, for eight days. At firſt, the fit was ſuſpended by it; but, at laſt, they recurred with their uſual vigour. The hiccup, with which ſhe had been before

before affected, returned on the ſecond day after ſhe had begun to take this medicine.

EXPER. XCV. Margaret Pettie, Exp. XLIX. in hyſteria, took ſixty drops of laudanum along with a ſcruple of aſſa-foetida, morning and evening; but ſhe threw it up twice. She then was ordered fifty drops of laudanum alone. Next morning, the head-ach, globus hyſtericus, and conſtriction of the abdomen, were better; and, by continuing the opiate, ſhe recovered.

EXPER. XCVI. Elſpeth M'Leod, Exp. I. affected with hyſteria, and frequent hiccup, took twenty drops of laudanum, every ſecond hour. Next day, I found that ſhe had taken a hundred drops. After the 4th doſe, ſhe turned eaſier; and, though ſhe got a fright during the night, ſhe complained only of head-ach and a pain of her ſtomach. On the 3d day, ſhe continued well. On the 4th, the hiccup returned once or twice, but ſhe had no hyſteric fit. On the 5th, the hiccup returned a little, and ſhe continued for ſome days in this way.

EXPER. XCVII. Hannaw Douglas, Exper. XV. in hiccup, took twenty-five drops of laudanum, thrice a day. Each doſe relieved the hiccup, and generally carried it off in half an hour after the medicine was taken; but then the diſeaſe returned again. She was conſtantly drowſy or ſleeping; and the hiccup, on the 5th day, came on even when ſhe was aſleep. The opiate was then given up.

EXPER. XCVIII. Peggy M'Intoſh, Exp. XI. for her hiccup took forty drops of laudanum, with one grain of the emetic tartar. It made her ſick, and produced, next morning, a plentiful ſweat, during which the hiccup kept off for the whole day. On the 3d, the hiccup was moderate; and ſhe was ordered twenty-five drops of laudanum at bed-time. On the 4th, ſhe had no hiccup; and the opiate was repeated. On the 5th, the hiccup returned as ſevere as before; ſo the medicine was given up.

EXPER. XCIX. Nov. 24, 1778. John Murray, 60, was ſeized with aſthma about two months before. The paroxyſm comes on about four o'clock in the afternoon. After

After the inflammatory ſtate was reduced by ſeveral bleedings, he took, at four o'clock in the afternoon ten grains of the thebaic pill, divided into two pills. He took the pills before the fit came on; the fit was much diminiſhed; he ſlept well, and could lie eaſily on his back. He afterwards was ordered a tea-ſpoonful of the paregorick elixir, to be taken at three in the afternoon; and he was not ſenſible of any paroxyſm. When taken after the fit came on, the drops made it gentler.

EXPER. C. John Thomſon, 18, in an aſthma, for three months, took two tea-ſpoonfuls of the paregorick elixir at bed-time. He paſſed much eaſier nights after it; and his expectoration, inſtead of being diminiſhed, was promoted by it.

EXPER. CI. Janet Monro, affected with aſthma for two months, was eaſier after an opiate.

From the above caſes, opium ſeems to be a powerful medicine in the hyſteria, as it cured both patients. It abated the hiccup in both caſes, though the diſeaſe again returned. In the epilepſy and convulſio, it ſeems to have done no good. It gave

gave much relief in the aſthma. In inflammatory caſes, I would not chuſe to exhibit this medicine till that ſtate was corrected by ſufficient venaeſection. I found this rule neceſſary to be obſerved, particularly in the aſthma. But opium has often failed me in ſuch caſes as were of the anti-inflammatory ſort.

CUPRUM AMMONIACALE.

This medicine has been much uſed of late in epileptic caſes.

EXPER. CII. Margaret Smart, Exper. XXIV. in an epilepſy, took from half a grain to a grain and a half of the cuprum ammoniacale, each night, at bed-time, for twenty-five nights. It generally excited nauſea; but the diſeaſe was not alleviated.

EXPER. CIII. Edward Oliver, Exper. LXX. was ordered from a grain to three grains and a half of this medicine, twice a day. It generally excited nauſea; but his fits of epilepſy did not abate.

EXPER. CIV. Jan. 18, 1779. Alexander Leitch, 18, ſubject to epileptic fits, began

began to take a grain of it, twice a day. At the end of ſome days, during which he had continued it, he came to take ſeven grains of it for a doſe. But his fits were not diminiſhed in violence or number.

EXPER. CV. Joſeph Harley, Exper. XXXII. took half a grain of it twice a day. As this quantity produced no ſenſible effect, it was increaſed to a grain; but it occaſioned a ſmart vomiting; ſo that we reduced the doſe to half a grain. This he continued for ten days, and had no fit; ſo he was diſmiſſed cured. But I was told, that the diſeaſe returned afterwards.

This medicine has, therefore, in none of theſe four caſes ſucceeded. But, in the laſt, the fits were ſuſpended by it for ſeveral days.

FLORES ZINCI.

Since Gaubius's detection of the quack remedy uſed by Ludemanus, this medicine has been much employed. Let us view our trials.

EXPER. CVI. March 18, 1774. Robert Bain, 21, was affected with epileptic

fits for ſeven years, which did not often return. He had a tremor of his legs and arms. He began to take a grain of the flores zinci, morning and evening; and took at laſt, after the period of near a month, twenty-two grains for a doſe. Theſe great doſes had but little ſenſible operation. No fits came on during that time; but the tremor and vertigo remained; ſo that he fell to the ground, but he had no convulſions.

EXPER. CVII. Dec. 3, 1774. James Ewart, 52, has laboured under epileptic fits for eight or nine years; and, of late, has had a paroxyſm every ten days. The faculties of his mind are impaired. Pulſe 80, and of natural ſtrength. He had taken vomits, emetic tartar, and camphire, before I ſaw him. His viſion became bad three years ago; and he has had a vertigo for two years. He was put, at firſt, on a courſe of this medicine, beginning with a grain, and increaſing the doſe to eighteen grains, twice a day. He was generally ſick after it, and ſometimes ſweated. 23d, He has had no fits till this evening, when he had a ſlight one, in which he

was

was inſenſible, and foamed a little at the mouth; but he had no convulſions along with it. He had no more fits, though he remained twenty days taking ſome mercurial medicines for his ſight, which he recovered.

EXPER. CVIII. William Falconer, Exp. LXXXVI. in epilepſia, took it, from the ſmalleſt doſes to half a drachm, twice a day. This quantity produced nauſea, and purged him gently. It gave him at firſt ſome relief from the fits, but it loſt its power at laſt.

EXPER. CIX. Alexander Leitch, Exp. CIV. ſubject to epilepſia ſince he was ten years of age, had this medicine from a grain, to ſixty grains for a doſe, twice a day. But without ſucceſs. With the largeſt doſes he ſometimes vomited.

EXPER. CX. John Murray, Exp. XCIX. in aſthma, was ordered a grain of it at bed-time. The dyſpnoea and cough were worſe. He took two grains of it next night, and was no better.

EXPER. CXI. David Bell, Exp. LXIX. in aſthma, took from one, to twelve grains of it, twice a day. He ſeemed eaſier at firſt,

firſt, but its good effects did not continue.

EXPER. CXII. George Drummond, Exp. CXXI. in hemitotonos, took at length this medicine to the quantity of a ſcruple, twice a day, for twelve days. It ſickened him, but did no ſervice in the cure of his diſeaſe.

EXPER. CXIII. Anne Cameron, Exp. XXXVIII. in hyſteria, had eight grains of it, twice a day, for ſeven days, without effect.

EXPER. CXIV. Helen Colvill, Exp. LVIII. in hyſteria, took it for five days without effect.

EXPER. CXV. Peggy M'Intoſh, Exp. XI. in hiccup, was ordered after the laſt bleeding, ſome doſes of this medicine. But, as theſe went no higher than five grains, and were continued but for three days, I attributed the cure more to the bleeding.

This medicine appears, therefore, from theſe trials, to be a good antiepileptic; but not to be ſo powerful an antihyſteric. The above doſes may appear very great; but were found to be very innocent. I

have,

have, however, had frequent opportunities of remarking, that the cure has been performed with ſmall doſes of two or three grains; and that when ſuch quantities failed, larger doſes of forty grains never ſucceeded. It generally produces a nauſea, rarely purges, ſometimes ſweats, and often has no ſenſible effects.

MERCURY.

Mercury has, of late, been conſidered as an antiſpaſmodic. The firſt hint, ſo far as I know, which we got of this quality, was in the Eſſays and Obſervations Phyſical and Literary, where we were told, that a ſurgeon of Jamaica had uſed it with ſucceſs in the tetanus and locked jaw, having before that time loſt many patients, to whom he had given opium and muſk. His method of giving it was, by rubbing in mercurial ointment; and the ſymptoms went off, when the mouth was affected. Dr. Lyſon has related three caſes of epilepſy cured by calomel. It may be ſuppoſed to act as a vermifuge in the latter caſes. It could not do ſo in the former,

as

as it was not given by the mouth. Such facts demanded our utmoſt attention.

EXPER. CXVI. March 1, 1774. Katharine Grant, 16, who never menſtruated, had been, during the preceding winter, in the clinical ward, ill of a fever, of which ſhe had been diſmiſſed cured. In this fever ſhe had complained of a pain in the left ſide, for which ſhe was then bled and cupped, and it was relieved. About the 18th of February, ſhe was again ſeized with the pain, which was ſituated between the ſhort ribs and the os ilium, and rather forwards; and it became worſe on preſſure, and on a full inſpiration. Two days afterwards, ſhe was ſeized with convulſive motions of the lower jaw, which continued, and were very frequent at the time of her admiſſion. Theſe were increaſed upon the leaſt motion of her body; and eſpecially when ſhe attempted to ſpeak. This was ſo evident, that, after they had ceaſed for ſeveral days, they were brought on again by ſpeaking. They were always attended with a convulſive motion of the ſternum, and of the organs of reſpiration; which different convulſive motions ſeemed to depend

pend on one another. Theſe convulſive motions, and the pain of the ſide, appeared to be intimately connected with each other, as the pain was eaſier when the convulſive motions were gentle, and was worſe when they were ſevere. When the pain of the ſide was acute, the breathing was always affected. She ſlept little; and, when ſhe did, ſhe ſtarted much; her body was regular, and her appetite good. Her pulſe was at firſt from 120 to 130, and weak; but in a few days it was only 100.

I thought this triſmus clonicus a good caſe for the exhibition of mercury, eſpecially as I had failed juſt before, when I truſted to muſk and opium, in the triſmus tonicus of a young gentleman, who was ſeized with it, from a fracture of the ſmall bones of the noſe. She began, March 1ſt, the night ſhe came in, with a bolus conſiſting of ſix grains of calomel, which was repeated each night, at bed-time. It generally opened her body once or twice. On the 5th, her pulſe was 116, and weak. She ſleeps ill, but has no convulſions during ſleep. 7th, pulſe 100, ſhe had three looſe ſtools which were not ſlimy. The

pain of her ſide and the convulſive motions are much eaſier; and ſhe ſleeps much better. Cōplains of a pain in her throat, and of her neck on both ſides. Her teeth are looſe. 8th, pulſe 100. She had a fit of her convulſive motions laſt night, during which the pain of her ſide, and difficulty of breathing, were worſe. Applic. ung. mercur. muſculis temporalibus. 10th, pulſe 100, the convulſive motions are much better, but they are ſtill brought on when ſhe ſpeaks. She began to ſalivate laſt night. 12th, All the convulſive motions have gone off ſince yeſterday morning. She ſpits much. She complains much of the pain in her ſide; for which the part was bliſtered. 15th, pulſe 120. She had a ſhort fit of the convulſive motions, without loſs of ſpeech, yeſterday, which was the laſt fit. The pain of her ſide is gone. She has purged often, and her faeces are black; and they continued of that colour for three days. She was ordered the powder of tin. 18th, pulſe 138, her bolus was now given up, and ſhe ſpat little. She complained of weakneſs, and pains over all her abdomen, breaſt, and legs. She took a doſe

of rhubarb, and after it the bark, as a tonic and antiſpaſmodic. But the fever increaſed; and notwithſtanding bliſters, emetic tartar, James's powder, wine, &c. ſhe died on the 29th.

This caſe affords a ſtrong proof of the antiſpaſmodic powers of mercury, after it begins to affect the mouth, as it carried off all the convulſive ſymptoms for the remaining fortnight of her life, even though the cauſe remained, which occaſioned them, and afterwards her death. What that cauſe was, could hardly be determined during her life. It could alone be aſcertained by the following inſpection of her body. The emanſio menſium might be accuſed as the cauſe of her death; but I never knew the amenorrhoea produce the triſmus; much leſs can the emanſio, whoſe ſymptoms are always more mild, produce it. Beſides, the triſmus never appears, as I am told, in the Eaſt or Weſt Indies, without an evident cauſe, or external leſion. It comes on here after operations. I ſaw it after a mortification of the points of the toes, and after a fracture of the bones of

the noſe. I knew it occaſioned by a fracture of the firſt bone of the thumb.

One of the moſt frequent ſeats of local convulſions is the inteſtinal canal, as appears from worms, poiſons, the colica pictonum, &c. Grinding of the teeth, which is a particular ſpecies of triſmus clonicus, ariſes from an irritation of the inteſtines. Beſides, we find, in this caſe, an actual pain there. This pain ſeemed to be the cauſe of the convulſions, from the following arguments: 1. The pain preceded the convulſions, which appeared two days afterwards. 2. The convulſions were always proportioned to the pain, and vice verſa. Thus on the 8th, when the pain of the ſide returned with ſeverity, ſhe had a fit of more general convulſions. 3. The pain of the ſide was evidently connected with the difficulty of breathing, and the convulſive motions of the reſpiratory organs; for on the 11th, the pain of her ſide was very ſevere, and a difficulty of breathing followed. 4. The convulſive motions were worſe when ſhe walked, which always increaſed the pain of her ſide. 5. The convulſive motions went off

before

before the pain. I, therefore, thought it probable, during the progreſs of the caſe, that the pain was the original cauſe of this diſeaſe, and that the ſeat of this pain ought to be conſidered as the ſeat of the convulſions. But what occaſioned the pain? That was more difficult to determine. As worms are attended with pains of the abdomen and convulſions, our firſt buſineſs was to enquire if any of the ſymptoms indicated theſe. But I could find no other ſymptoms, except theſe two, to confirm that opinion; and yet I have ſeen worms produce very few.

Nothing but ocular demonſtration could clear this doubt. On inſpecting the body, the ſmall inteſtines on the left ſide were much inflamed; and, where they touched the peritoneum, before the left kidney, they had a mortified appearance. On laying open the whole inteſtinal cavity, nothing preternatural was ſeen in it. The left orifice of the ſtomach was much inflamed. The lungs alſo were found inflamed, and adhering to the pleura and diaphragm. The veſſels of the brain were much diſtended. The gangrenous ſtate of

the ſmall inteſtines, the part where ſhe complained of the pain, appears to have been the cauſe of her diſeaſe. In Lieutaud*, we meet with convulſions from the colica pictonum. And in another place † we find two caſes of convulſions from ſphacelated inteſtines.

EXPER. CXVII. January 13, 1775. Elizabeth Donaldſon, 19, regular in the appearance of her menſes, had received a a violent compreſſion around the ribs, about three weeks before this, which gave her pain for ſome time. About eight days before ſhe came in, ſhe began to feel a pain under the middle of the ſternum, during inſpiration, and when ſhe attempted to ſwallow. This pain increaſed; and for the laſt two days before ſhe came in, it was much worſe. It was now attended by a pain between the ſcapulae, but rather towards the left ſide, nearly oppoſite to the pain in her breaſt. As ſhe deſcribed it, the pain was in the courſe of the oeſophagus. It was eaſier after warm, and worſe after cold drink. At firſt, ſolid food got only a certain length down the oeſo-

* Lib. I. Sect. 346, 450. † Sect. 426, 427.

oeſophagus, from ſome obſtruction raiſed a pain there, and in three minutes, it came up without vomiting. At length liquids could not paſs eaſily. About three days before ſhe came in, a violent head-ach came on, along with frequent convulſive ſtartings of the whole body, of whoſe attack ſhe had no previous notice. Her body is bound; but her abdomen is not retracted. Her tongue is white and moiſt. Her urine is diminiſhed. Her feet are always cold. After ſhe came in, ſhe was often affected with globus hyſtericus, and a ſenſe of ſuffocation. Her pulſe was remarkably ſlow, from 45 to 64, and weak. There often came up, without vomiting, ſome mucous matter, which ſhe thought was collected about the affected part. She had been bled and vomitted before I ſaw her.

She was ordered ten grains of aſſafœtida with ten drops of laudanum, every hour; a clyſter compoſed of two drachms of aſſafœtida and ſixty drops of laudanum, twice a day; and two drachms of laudanum were rubbed on the parts pained before and behind. 15th, The laudanum in the ſolution of aſſafœtida was increaſed; and a

bliſter was applied to the back, upon the part pained. 16th, Pulſe 60, the difficulty of ſwallowing is increaſed. She feels an oppreſſion about the heart. She was ſo irritable, that ſhe always fell into violent ſtartings at our viſit. She began the aether, and took a tea-ſpoonful every fourth hour. 17th, The ſymptoms were ſtill becoming worſe, and ſhe could not ſwallow even drink without great pain. I now had recourſe to calomel, giving ſeven grains of it at bed-time, omitting all the other medicines. 19th, Pulſe 60, ſhe ſwallows liquids, but not ſolids, eaſier. She has no ſtartings. The pain between the ſcapulae is gone, and that under the ſternum is diminiſhed. She purged once every day. 20th, She has purged five times. Deglutition and the pain of her breaſt better. 22d, Her mouth and gums are ſore, her teeth are looſe, and ſhe ſpits. All her complaints are gone, except a ſmall degree of pain when ſhe ſwallows. 23d, Complaints entirely gone; and the ſpitting continued for ſome days.

Hoffman has given us the only deſcription, which I have ſeen, of this diſeaſe, under

under the name of Spaſmus Gulae. It is alſo deſcribed under the genus Dyſphagia, in Hoffman's words, by Sauvages, as he ſeems never to have ſeen it. The ſymptomatic kind happens often in the hyſteria; but ſuch an original and primary diſeaſe, as above deſcribed, occurs but ſeldom. I had ſeen it once before, but it was then ſeated in the upper part of the oeſophagus or pharynx; and the food went no further. The diagnoſtic ſigns of ſpaſm in the lower part of the oeſophagus are, "whatever is ſwallowed, eſpecially ſolid food, gets no further than the conſtricted part, lies there for a little, and is again thrown up; and a pain under the ſternum, and between ſcapulae, towards the left ſide, which is eaſed by warm, and increaſed by cold drink." Other ſpaſmodic ſymptoms alſo attend it.

It is owing to a ſpaſmodic contraction of the muſcular fibres of the oeſophagus. Hence the pain appeared in the ſituation of that part, and was increaſed by deglutition, and by reſpiration, as the inflated lungs and the diaphragm muſt both preſs againſt the part. Hence ſhe threw up the food

and

and mucus, without vomiting, by rumination, that is, an inverted motion of the muſcular coat of the oeſophagus, without the aſſiſtance of the ſtomach. Hence hot liquor eaſed her, while cold acted as a ſtimulus. The globus hyſtericus was owing to air ariſing to the conſtricted part of the oeſophagus, and explains the nature of that ſymptom in the hyſteria. The ſtartings and more general convulſions, which only differed in degree, and aroſe from the ſlighteſt cauſe; the bound body, and diminiſhed urine, ſhowed a great irritation or irritability in the whole nervous ſyſtem. The pulſe was remarkably ſlow, which is common in ſpaſmodic caſes. This happens in the tetanus, while the contrary takes place in convulſive diſeaſes. The ſloweſt pulſes, with which I have met, have been attended with violent pain. A greater irritation, perhaps, takes off the attention of the mind from the ſmaller and more conſtant, ariſing from the blood in the vaſcular ſyſtem.

This diſeaſe is eaſily diſtinguiſhed from other affections of theſe parts. From the inflam-

inflammatory angina, by its fever, thirſt, and from inſpection. From a palſy of the oeſophagus, as the latter has no pain, or any other ſpaſmodic ſymptoms attending it, and impedes all deglutition, as whatever is ſwallowed returns by the noſe. From a tumour obſtructing the oeſophagus, by a compariſon of the ſymptoms, as in the following caſe. A girl, 21, threw up her food unaltered immediately after taking it; and, if it did not come up, an uneaſy ſenſation was produced. She had a gnawing pain at all times in the oeſphagus, which was not increaſed on ſwallowing, but after the food had remained in it about a minute. She gradually waſted, and died in five months. When her body was opened, a large hard tumour, two inches along the courſe of the oeſophagus, and of conſiderable thickneſs, was diſcovered, which ſhut up the paſſage, and had a carcinomatous appearance. Here the ſymptoms were different. The ſpaſm of the pharynx, or upper part, is diſtinguiſhed from dyſphagia by an entire want of deglutition, and violent pain when attempted.

This

This patient had been bled, and had taken a vomit, before ſhe came in, without relief. Evacuations, in general, are ſeldom proper in ſpaſmodic caſes, as they increaſe debility and irritability. Her pulſe was always weak after ſhe came in; ſo there was no indication for bleeding. I ſhould ſcarcely deem vomits uſeful in the ſpaſmodic ſtate of the oeſophagus. I proceeded directly to aſſafoetida and laudanum, two approved antiſpaſmodics, which I had found uſeful in a ſimilar caſe. But theſe medicines, applied in every different ſhape, a bliſter, and aether, failed. The calomel, however, carried off the ſymptoms in ſix days, and appears, in this diſeaſe, to be more powerful than the other medicines. It is to be obſerved, that, though the ſlighter ſymptoms abated from the 3d day of giving mercury; yet the ſeverer did not retire till the mouth began to be affected, and a ſalivation was produced.

EXPER. CXVII. James Finliſon, Exp. XXVI. in tremor palpitans, took calomel for ten days, till he ſpat two pints a day. But he was no better.

EXPER.

EXPER. CXIX. Elizabeth Muir, Exp. XXI. in aſthma, had five grains of calomel, for ſeven nights, without affecting her mouth. But ſhe was not better for it.

EXPER. CXX. Thomas Jones, Exp. V. in aſthma, took the ſame medicine in the ſame quantity, for ten nights, without affecting his mouth. But he was no better.

Dr. Cheyne recommends, in the aſthma, crude quick-ſilver; but, if it ever does any ſervice, it muſt be from ſome particles of it being abſorbed, which often happens. But in the two foregoing caſes calomel was found to be unſucceſsful.

EXPER. CXXI. Anne Cameron, Exp. XXXVIII. in hyſteria, was ordered ſeven grains of calomel, for eight nights, till her mouth was ſore, and ſhe ſpat a little. The laſt day the fits were ſeverer than uſual; ſo it was given up.

EXPER. CXXII. March 14, 1778. George Drummond, 65, a weaver, ſubject to intermittents, felt a weakneſs in all the left ſide, and a pain in the left leg, for ſome time before the attack of his preſent diſeaſe. Laſt ſummer, without any known cauſe,

cauſe, he was ſuddenly ſeized, when he was in bed, with convulſive motions in all the muſcles of the left ſide, which laſted a ſhort time only, and left the parts cold. Theſe convulſions gradually increaſed in frequency and ſeverity to the preſent time. He had, likewiſe, much flatulence, ſighing, depreſſion of ſpirits, ſweating in the affected ſide, and pains in the breaſt, ſhoulders, haunches, and legs. The fits returned, then, moſtly every other day. I ſhall deſcribe them as they were ſeen by us.

He feels their approach, and knows it, by a pain in all the left ſide of his head, a coldneſs and *creeping*, as he calls it, down the ſpine to the ancles. At the ſame time, he feels in his bowels a rumbling noiſe of wind, which riſes to his throat, affects his reſpiration, and is ſimilar to the globus hyſtericus. After this, the muſcles of the whole left ſide, and of that ſide alone, are affected with violent, irregular, involuntary, convulſive agitations. The head is turned to the left ſide. The left eye diſcharges tears, and is pained. The under jaw is convulſively moved. The

left

left ſide of the mouth and tongue are dry. Reſpiration is quick during the fit, and the muſcles of the left ſide of the abdomen are much agitated, and their motions keep pace with reſpiration. The left arm and leg undergo all different poſſible convulſive motions, and are cold during the fit. He is ſenſible of what paſſes during theſe fits; but he cannot ſpeak, nor command the motions during them. The fit continues, in general, for two hours, ſometimes for a ſhorter time. He paſſes wind, and has a ſobbing when it goes off, as in the hyſteria. The ſide is weak, pained, and apt to ſweat, for ſome time afterwards. He has, ſometimes, ſlight convulſions of his legs, without a fit. After he had been in the clinical ward for ſome weeks, the fits returned generally twice in twenty-four hours, moſt commonly in the night-time, and generally when aſleep; ſometimes in the morning and evening; but rarely between ten o'clock in the forenoon, and four o'clock in the afternoon. In the interval his pulſe is about 60; in the fit it is 96; and ſoon after it is over, 79. His urine is of a

ſtraw-

ſtraw-colour; and in great quantity, as we found it for two different days, to be four pints. He never paſſed worms, nor has he, at preſent, any ſymptoms of them. He has no acidity of the primae viae, no palpitations of his head, nor is he more apt to ſtartle than when he is in health. His fits were never obſerved to follow any paſſion, or quick motion. He never received any wound or ſtroke; nor has he any cutaneous affection, or haemorrhoids repelled. Theſe are all the circumſtances of moment which were obſerved.

We cannot accuſe worms here, as there are no ſymptoms of them; and, had there been any worms, the frequent purging with calomel, which was afterwards given, muſt have brought ſome off. We cannot accuſe irritation from acidity in the inteſtinal canal, as there was none. It ſeems to reſemble much that ſpecies of hyſteria, which is ſaid to attack men, in the convulſions of the muſcles, in the globus hyſtericus, in the flatulence and ſobbing when the fit is going off, in the increaſed quantity and paleneſs of urine, in the hot and cold fits, in the coldneſs of the extremities,

tremities, and in the paroxyſm being brought on by the external application of cold water. It is from ſuch caſes, I imagine, that men are thought to be affected with the hyſteria. If we conſult Hoffman's ſecond hiſtory of the young man, who was affected with hyſteria, we will find fewer hyſterical ſymptoms in that, than in the preſent caſe. I ſuſpect that the other caſes of male hyſtericks had no better foundation; nor is it poſſible that men ever ſhould labour under this diſeaſe, if, as to me ſeems probable, the uterus be the ſeat of hyſteria. Yet even here I can ſee many ſymptoms different. The globus hyſtericus did not riſe from the bottom of the belly; the urine, though increaſed, was not ſo pale as in hyſteria; ſurpriſe and paſſions did not bring it on; and there was no irritability of mind, and no vomiting of acid matter attending this caſe. It anſwers exactly to the character of the convulſio of Sauvages, and to the fifteenth ſpecies, the hemitotonos, or convulſion of one half of the body.

Where is the ſeat, and what is the cauſe of this diſeaſe? Hoffman places all con-

vulſions in the ſpinal marrow. He thought, perhaps, that irritation of the brain muſt produce epilepſy. But we are ſure, that, as the muſcles of the eyes and face are often affected, the cauſe of topical palſies muſt be often in the brain. Why may not, therefore, the ſeat of topical convulſions be there? The ſeat of the riſus ſardonicus, and of the triſmus clonicus, muſt be in the brain. As in our patient, the muſcles of the face are affected, ſo far muſt the cauſe of his diſeaſe be ſituated in the brain. Beſides, the firſt approach of the fit is felt in the brain, before it is felt in the ſpinal marrow.

I conſider the diſeaſe of this patient as a ſlighter caſe of epilepſy, where the cauſe is weaker. Epilepſy proceeds, I imagine, either from an irritating cauſe, or great irritability of the nerves. So muſt this diſeaſe. There are no marks, in the caſe, of increaſed irritability. There muſt, then, be ſome irritating cauſe. I knew an epilepſy which ſeemed to ariſe from a pain in the left ſide of the head, and another from a ſimilar pain in the haunches, in both of which the affected

part

part appeared to be very ſmall. But, what that irritating cauſe is, will be very difficult to fix. We find no appearance of either fulneſs or inanition of the brain. From the diſſections of Lieutaud and Morgagni, ſerum is, generally, found on the ſurface of the brain, ſo acrid, ſometimes, that the dura mater is eroded by it. It is found, too, in the ventricles. That probably was the cauſe in our patient.

I had no hope from the firſt of curing this diſeaſe, on account of his advanced age, the duration of his diſeaſe for nine months, and the increaſing frequency and ſeverity of the paroxyſms, notwithſtanding a great variety of medicines which he had taken. Before he came in the clinical ward, he had taken two ſcruples of bark, and two grains of the flowers of zinc every ſecond hour; the volatile elixir of guajac; two vomits; aſſafoetida; the pulvis cretaceus, with the flowers of zinc; twenty drops of laudanum, with thirty drops of the ſpirit of ſal ammoniac, which were taken before the fit, without preventing it; two ſcruples of the powder of valerian, every fourth hour; five grains of

camphire every fourth hour; fifty drops of aether for a doſe; ſix grains of muſk at a time; and three of the pillulae ceruleae, which are compoſed of the cuprum ammoniacale.

My only truſt was in mercury. I began with five grains of calomel, and increaſed it to eight grains, morning and evening. It purged him much, and weakened him, ſo that firſt one grain, and then two grains of opium were neceſſarily added to it. But no ſalivation or affection of the mouth could be induced with theſe great doſes, even though a drachm of the mercurial ointment, for many nights was rubbed upon his ſkin. This plan was continued for fifteen days, without any advantage; and I was ſorry to deſiſt, as I knew none ſo effectual. Opium, given to the extent of four grains daily, a much greater doſe than he had taken before, failed too. After this, two grains of the extract of the hyoſcamus, taken twice a day, were tried for ſix days. Its natural poiſonous effects were viſible; but it made no change. He was ordered a ſcruple of the flowers of zinc, twice a day, with-

without ſucceſs, for eleven days. He took aether to the quantity of four tea-ſpoonfuls, four times a day, drew it in by inſpiration, and had it rubbed on his head and ſpine; but the fits ſeemed to become worſe. He kept a ſeton in his neck for twenty-two days, which drain I thought might be of uſe, in caſe any matter was collected within the cranium. But I ſaw no advantage from it. The cold bath was ordered. But, whenever he put his feet into the tub, he was ſeized with a fit, without the previous ſymptoms, which ſhowed that it was owing to the immediate action of the cold. I tried again the ſhower-bath. But, immediately after the ſhock, he fell into a ſeverer fit than uſual, in which the right ſide was as much affected as the left. A ſtrong proof of the irritating nature of cold water. At this time the clinical ward was given up, and he was, at his own deſire diſmiſſed.

Thus we have ſeen two remarkable caſes cured by mercury, a triſmus clonicus, and ſpaſmus gulae, the latter of which ſeemed to yield to no other antiſpaſmodic. But it has likewiſe failed in a tremor palpitans,

pitans, two aſthmas, an hyſteria, and an hetotonos. Do its effects depend on its general evacuative powers? I cannot think they do, as in the unſucceſsful caſes it purged much. Do they depend on its ſalivating powers? There is more reaſon to ſay ſo, as, in theſe trials, and in thoſe of others, its effects do not take place till the mouth is affected, and the ſpitting begins. The ſame appears to happen, when mercury is exhibited, in the rabies canina. Is this owing to the topical evacuation; or to the irritation and inflammation of the mouth and fauces; or a certain quantity of the mercury required in the vaſcular ſyſtem, which muſt generally be followed with ſalivation? The two firſt ſuppoſitions are not deſtitute of probability; becauſe, in moſt of the preſent caſes, and in thoſe of others, the affection has been in the vicinity of the mouth and fauces, as in the triſmus tonicus and clonicus, dyſphagia, emproſthotonos, and epiſthotonos; though we muſt allow, from the relations which we have from Jamaica, that it has cured the tetanus, which attacks the whole body. Beſides the general antiſpaſ-

modic power of mercury, it may act more forcibly in the affections of the neighbouring parts, by a counter-ſtimulus and evacuation made in their vicinity. If there is any truth in this obſervation, it points out the diſeaſes in which mercury will ſucceed moſt frequently, namely, thoſe near the head; and it will more confirm us in making further trials with it in the rabies canina.

CONCLUSION.

It is but a melancholy retroſpect to view ſo many trials made with the moſt approved antiſpaſmodics, and to ſee ſo few cures performed by any one particular remedy. We ſee that there is none in which we can always truſt, but muſt vary our medicines, as a new one will often ſucceed, when others have before failed. This uncertainty of antiſpaſmodics depends not, perhaps, ſo much on the ſtubborn nature of ſuch diſeaſes, or on the weakneſs of the remedies, as on the want of accurate experiments, with all their circumſtances. This has been a great de-

fect in the materia medica, has ſtopped the progreſs of medicine, and kept it in a ſtate of uncertainty; whereas, if the circumſtances of the diſeaſe, and of the exhibition of the remedy, had been handed down, certain and fixed general principles and rules muſt, ere this time, have taken place. To ſupply this defect, and point out the proper line for the improvement of medicine, I have collected the preceding experiments.

Antiſpaſmodics are not all entitled to equal confidence. I know no author, however, who has ſettled their comparative merit: Each phyſician is left to judge from his own experience. But, in private practice, he may grow old without facts ſufficient. Were I, from the preceding experiments, which are not few, to make a computation of their relative value, I would arrange them into four claſſes, according to their powers. In the 1ſt, I would place the weakeſt, as the folia aurantiorum, the flores cardaminis, the artemiſia, the peonia, the viſcus quercinus, the extract of the hyocyamus, caſtor, muſk, the cuprum ammoniacale, and electricity,

tricity. In the 2d; Fear, camphire, the flowers of zinc, and bliſters. In the 3d; Aſſafoetida, aether, and mercury. In the 4th; Bark, opium, and bleeding. Every one in this diſtribution, will judge as he has experienced. I may alter my opinion on further trials, as it is from theſe I have formed the preſent. It is good, however, to have ſomething fixed; and it is eaſier, afterwards, to correct, than to ſettle, at firſt, ſuch a comparative view.

One of the chief deſigns of theſe experiments was to diſcover the caſes and ſituations in which ſuch medicines might be moſt ſucceſsfully uſed. In this we have not been altogether unſucceſsful. We may obſerve, that moſt of theſe, beſides their primary antiſpaſmodic quality, poſſeſs ſecondary qualities, which have much influence on their effects and exhibition. Beſides ſome of them poſſeſſing laxative or ſudorific powers, which others do not, they may be diſtinguiſhed into the ſtimulant or inflammatory, and the ſedative or anti-inflammatory. Of the former ſort, are electricity, mercury, valerian, aſſafoetida, Peru-

Peruvian bark, opium, &c. Of the latter, are bleeding, epiſpaſtics, muſk, camphire, caſtor, aether, the flores cardaminis, the folia aurantiorum, the cuprum ammoniacale, the flowers of zinc, &c. The former muſt be chiefly uſeful in the debile anti-inflammatory ſtates; the latter, in the febrile and inflammatory. The preceding experiments have confirmed this; and bleeding has been found one of the moſt powerful anti-hyſterics, when the habit of body was inflammatory.

But particular antiſpaſmodics are ſuited to cure particular ſpaſmodic diſeaſes, from ſome other circumſtances, independent of theſe juſt now mentioned. Theſe experiments have ſhown me the fact; but they have not diſcovered the cauſe or principles on which it depends. Aether will relieve one ſpaſmodic diſeaſe and not another, though both inflammatory, or both anti-inflammatory. The flowers of zinc will cure an epilepſy, though not a convulſio. Opium will eaſe an aſthma, though not a convulſio. Mercury will cure a triſmus,

or

or ſpaſmus gulae, though not an hyſteria, convulſio, or aſthma. As there are topical ſpaſmodic ſtimuli, it is probable, that there are topical antiſpaſmodics which relieve the irritation, or irritability of certain parts only. But how they act is difficult to ſay. We have hinted at the principle in mercury, though we own it is but an opinion. In the other antiſpaſmodics, I can form no idea that ſatisfies me. As the operation of ſuch bodies is exerted on the nervous ſyſtem, of which we know ſo little, we may never, perhaps, be able to fix their mode of operation. We may, however, by a multiplicity of experiments, be able to fix the fact, and the diſeaſes and circumſtances to which particular antiſpaſmodics are beſt adapted, which would be of eſſential ſervice to the practice of medicine.

SECT. XII.

Experiments upon ſome Antiparalytic Remedies.

The palſy appears, at preſent, very frequently in the clinical ward, and for the ſame

ſame reaſon, perhaps, that the typhus does. Like it, the palſy ſeems to affect moſtly thoſe in the vigour of life, as there is not one of all the patients, whom I have had there, who has exceeded the age of 50. That it is, ſometimes, a mere nervous affection, cannot be doubted, ſince it is obſerved to be produced and cured by paſſions; ſince it ariſes from the external and internal uſe of lead, and other narcotic poiſons; ſince the optic nerve is found often free from compreſſion in the amauroſis; and ſince, frequently, no evident cauſe of the diſeaſe can be diſcovered by diſſection, as appears from authors, and in one of the following caſes. But that it often does ariſe likewiſe from actual compreſſion, and, as Morgagni has diſcovered, in the ſide oppoſite to that in which the affection is placed, we had a proof.

May 8, 1769, Elizabeth Fraſer, 36, had been, during a month, affected with vomiting, and on the 3d of May, ſhe was ſeized with loſs of motion, and imperfect ſenſation in all the right ſide. The right hand and leg were ſwelled. Her ſpeech was very indiſtinct. She had a pain in the

right

right ſide of her head. Her body was bound. Her pulſe was weak, irregular, and intermittent. She complained of pains in her belly, picked her noſe, and grinded her teeth. In the laſt days, the left angle of her mouth was convulſed, and the palpebrae of the left eye was more ſhut, which were the only affections of the left ſide which we obſerved. Notwithſtanding repeated bliſters and phyſic, muſtard and muſtard-whey, cupping, errhines, ſtimulants, &c. ſhe died on the 19th. When opened, no fluid was found on the ſurface of the brain; but the veſſels ſeemed to be turgid. The liquor in the ventricles did not much exceed the natural quantity. Above two ounces of bloody purulent liquor were found on the ſurface of the medulla oblongata, on the left ſide; and more of it was ſeen on the ſurface of the medulla ſpinalis. The right cavity of the thorax was full of a bloody liquor, about four pints in quantity; and the lungs, on that ſide, were livid and ſchirrous in one part. The pleura was red, and covered in many parts with mucus. About a pint of fluid was found in the abdomen. The

ſtomach

ſtomach had a livid ſpot upon it, about the ſize of a ſhilling.

As the palſy frequently ariſes from ſome ſuch fixed compreſſing cauſe, which is diſcovered in moſt of Morgagni's diſſections, no wonder that we ſo often fail in its cure. Whatever, therefore, is found to cure this diſeaſe, in certain particular circumſtances, deſerves our attention.

VENAESECTIO.

Bleeding, though recommended by practical authors, is ſeldom, in the caſes I have ſeen, admiſſible. But, in certain circumſtances, which, indeed, occur but rarely, it makes the principal part of the cure.

EXPER. I. July 4, 1770. John Anderſon, 47, was ſeized, about ſix weeks before this, with ſhivering, followed by heat, thirſt, ſweating, and pain of his back. The pain, after eight days, remained fixed, in all the joints of his inferior extremities, which, in 12 hours, ſwelled, became red, and immoveable. In 14 days, the pain and ſwelling left the inferior extremities; and, at the ſame time, he was ſeized with pain,

coldneſs, and loſs of feeling in the whole left ſide, vertigo, and difficult deglutition; ſo that, when he attempted to ſwallow, the food returned by his noſe. His pulſe is 116, ſtrong, and irregular. He complains of thirſt, and his tongue is white. The upper palpebra of the left eye falls down; and he does not ſee well with that eye. He has loſt the feeling, in a great degree, and the motion conſiderably, of the whole left ſide, except in the neck, which he ſays is much pained. The right ſide is in a natural ſtate, except a ſlight degree of inſenſibility in the leg, and a pain in the ſhoulder. He had a cough, with expectoration. Body bound. Appetite good.

This curious caſe appeared to have been, at firſt, a rheumatic fever, from the pains, ſwelling, and redneſs of the joints. In ſome days, theſe ſwellings ſuddenly diſappeared, and he was attacked with a hemiplegia of the whole left ſide of the head, trunk, and extremities. The pharynx, and the oeſophagus, perhaps, from its lying moſtly on that ſide, were alſo affected. This was plainly a tranſlation of the cauſe, or at leaſt a change of the ſeat of the diſeaſe,

diſeaſe, from the joints to the nervous ſyſtem. But, as the alteration was ſo ſudden; as the pulſe had ſtill the rheumatic ſtrength, I conſidered the nature of the diſeaſe as unchanged, and that the cure was to be conducted in the hemiplegia, as in the acute rheumatiſm, by bleeding. So ſtrong was this impreſſed on me, from a conſideration of the whole ſymptoms, that my plan was not altered by his telling me that he had been bled twice in the beginning of his rheumatiſm, and that he thought himſelf worſe after it. I was reſolved to try bleeding alone. He was bled, in ſeven days, four times; after each of which the ſymptoms gradually diminiſhed. His blood was always ſizy. Nothing elſe, during this time, was done, except giving him a little nitre, and keeping his body open by clyſters. At the end of this time, all his ſymptoms, except a head-ach, diſappeared.

This caſe is equally deciſive with regard to the utility of bleeding in certain circumſtances of palſy; as it is ſingular in its connection with the acute rheumatiſm and in the inflammatory nature of its ſymp-

ſymptoms. There is no reaſon to think there was any external compreſſion here. If any, it muſt have been from a plethoric ſtate of the veſſels within the cranium. It appears more probable that the cauſe was ſituated altogether in the nervous ſyſtem, perhaps within the brain and medulla oblongata.

DORONICUM GERMANICUM OFF.

This plant is the Arnica Montana Lin. or Leopard's bane. It ſeems to be much uſed in paralytic caſes, at preſent, in Vienna, as appears from the writings of Eiſenbach, of Reichter, and eſpecially of Collins, who publiſhed an account of ſome caſes, where it was ſucceſsfully given in the year 1773. They uſed a handful of the leaves, or from a drachm to an ounce of the flowers, infuſed in water, each day. This medicine appeared, from their experiments, to be poſſeſſed of ſtrong powers, eſpecially in curing the hemiplegia. As it was not to be got here in the ſhops, I found it difficult to pro-

cure a ſufficient quantity for the following experiments.

EXPER. II. November 30, 1776. Elizabeth Liddle, 37, for many years ſubject to vertigo, was ſeized, about a month ago, with a deep ſeated pain above the right eye, which laſted eight days, and was ſucceeded by dimneſs of ſight. About the 16th of October, ſhe was affected with a hemiplegia of the whole right ſide. The left thigh and leg are a little attacked. The pulſe is ſcarcely to be felt in the affected ſide, and is from 84 to 90, ſoft and weak. Her tongue is rather leſs paralytick than formerly. The ſecretion in the noſtrils is much diminiſhed. She complains of faintneſs and vertigo, eſpecially on ſtooping. This patient was ordered aſſafoetida, errhines, a ſeton in her neck, electricity, mercury, ſo as to produce ſlight ſalivation, and the decoction of guajac; and ſhe was relieved, though far from being cured, by the uſe of theſe medicines. January 29th. ℞ Fol. doron. Germ. drach. i. aq. bullient. lib. i. fiat inf. per tres horas, & cola. Cap. unc. iv. quater in die. It always produced a giddineſs, for

for half an hour, after ſhe took it, and two looſe ſtools a day. The muſcles of her extremities ſtarted often, which they had not done before. Half a drachm was added to the former quantity, without any alteration in its effects; but, on uſing two drachms, it produced more ſickneſs and purging. February 6th, the muſcles of her legs are much affected with ſlight convulſive motions, and with violent ſtarting. 10th, Diſmiſſed cured.

EXPER. III. February 6, 1778. Katharine Aiken, 42, was ſeized, about two months ago, with a hemiplegia of the left ſide, which is deprived of all motion, except a little in the leg. All that ſide is attacked with an oedematous ſwelling. What is more uncommon, the affected parts ſtill retain their feeling, and the joints are even ſeized with violent pains, eſpecially in the night-time, and while ſhe is in bed. Her pulſe is 74, and weak. Theſe pains ſeemed to have ſome connection with the rheumatiſm; but, in the progreſs of the diſeaſe, they diſappeared, and it turned out to be a caſe of pure hemiplegia. 9th, She took this medicine as

preſcribed above. It produced nauſea, two or three looſe ſtools a day, and much ſtarting of the muſcles of the affected parts. 12th, Half a drachm more of the leaves was added. Her head ſweated much; ſhe felt more ſickneſs; and ſhe thought that there was ſome more motion in her leg. 15th, We could not continue the experiment, as the medicine was exhauſted. Three weeks after, ſhe began to complain of great weakneſs and dyſpnoea, her pulſe quickened, a broad flat livid eruption appeared on her legs, and ſome parts of her body, and ſhe died on the 20th of March.

On inſpecting the cranium, nothing preternatural could be obſerved, except a plethoric ſtate of the veſſels of the brain, and a more than ordinary quantity of water in the ventricles. The conſiſtence of the cortical and medullary part was ſimilar and natural in both hemiſpheres, as likewiſe in the medulla oblongata. Nothing remarkable was obſerved in the thorax or abdomen. Here no labes could be diſcovered, to which the palſy might be attributed;

buted; ſo that we muſt aſcribe it to an affection of the nervous ſyſtem.

EXPER. IV. February 10. Elizabeth Ramſay, 33, was affected, for ſix months, with palſy of her lower extremities, which had been preceded, about three years ago, by rheumatic complaints in them. As the parts were diminiſhed in ſize, and as ſhe had a protruſion in ſome of the dorſal vertebrae, ſucceſs was not to be expected from any medicine. Though ſhe had a gentle purging, I gave her the infuſion of this plant. It produced no ſenſible effects, and the purging was rather leſs. The medicine was ſtopped, after ſix days uſe, from a deficiency of it.

EXPER. V. December 11, 1778. John Calder, 50, has a defect of ſenſation and motion in both hands. He took at firſt a drachm, and at laſt three drachms of this plant, infuſed in a pint of water. It excited pains in his belly, and ſome looſe ſtools. But, after fourteen days, he was no better.

EXPER. VI. December 23d. John Walker, 31, was ſeized with a hemiplegia of his left ſide, after a fever, about

a month ago. He began with two drachms of it in infuſion. It produced no ſenſible effects, except more heat in the affected ſide. The infuſion was at laſt made with three drachms of this medicine, and it was continued for ten days. But it ſeemed not to do much ſervice.

EXPER. VII. December 26. Nelly Cochran, 15, has had a paralyſis of both arms for three years. The infuſion was made with firſt a drachm, and then with two drachms of this plant. It produced nauſea, and her arms felt warmer. She uſed it for ſeveral days without advantage.

We cannot, from theſe experiments, judge very favourably of the ſucceſs of this medicine. We muſt leave it to future trials, before we can ſubſcribe to the effects, as related to us from Vienna. We can only ſay, that, from the ſtimulus in the primae viae, and on the affected muſcles, it ſeems to give hopes that it will be of ſome ſervice; which however our trials have not yet aſcertained.

URTICATIO.

URTICATIO.

It was common among the antients to beat the paralytic part with nettles, in order to reſtore its ſenſibility and motion.

EXPER. VIII. June 22, 1770. Thomas Main, 30, has been affected, for three years, with a palſy of the lower extremities. Nettles were applied to the whole leg, and above the knee, and they produced a burning heat, and ſevere pain. Two days after, they were applied a ſecond time, for five minutes. But this remedy was attended with no advantage. It, however, ſeems to be well adapted, to produce a topical fever.

BALNEUM CALIDUM.

The hot bath is thought to be uſeful in the palſy, as many natural hot baths are found to be powerful remedies in this diſeaſe. But theſe may operate from the mephitic air, and other impregnations, which common water has not. Hot baths are, certainly, ſtimulating, if they much exceed the heat of the human body; but

then the ſtimulus is not long applied. They increaſe, indeed, the ſenſibility and irritability of the nervous ſolids, but they, at the ſame time, increaſe the debility and laxity of all the muſcular fibres.

EXPER. IX. Katharine Aikin, Exper. III. uſed the hot bath for more than three weeks, heated to as great a degree as ſhe could bear, without the leaſt ſucceſs.

EXPER. X. Elizabeth Ramſay, Exper. IV. uſed it for ſeveral days, without any advantage.

EXPER. XI. April 11, 1778. Sarah Wood, 32, has been affected, for ſome time, with a hemiplegia of the left ſide, and ſevere pains in the right ſide; head-ach, depreſſion of ſpirits, little ſleep, and thirſt at times. Pulſe 72. She uſed the bath very hot for eight days, and thought ſhe had more feeling, though not more motion, in the affected ſide. She was afterwards ſeized with a fever, and cured by it.

Theſe trials with the hot bath, in paralytic caſes, have been very unſucceſsful.

SECT.

SECT. XII.

Experiments upon the effects of the Oleum Terebinthinae in the Sciatica.

The Sciatica frequently appears in the clinical ward. It is claſſed, by practical authors and noſologiſts, as a ſpecies of rheumatiſm, but perhaps upon too ſlight grounds. There has been little written by the moderns on the nature and cure of this diſeaſe that can ſatisfy an inquirer. De Haën has a chapter upon it; but he has done no more than collect the ſcattered methods of cure to be found in Hippocrates, without adding any thing new, which can never improve medicine. Dominici Cottunni has written a ſmall treatiſe on it; but his opinion is little better than an hypotheſis. There are few diſſections in this diſeaſe to aſſiſt us.

Having, many years ago, met, in one of Dr. Cheyne's Philoſophico-Medical Works, with a receipt, compoſed of the oleum terebinthinae and honey, as a cure for this diſeaſe, I tried it, and found it ſucceed. I have ſince uſed it for many years,

years, as an efficacious and valuable medicine. Many were cured with it before I entered into the clinical ward; ſo that it has not the merit of fixing the value, but of confirming yet more the good effects of this remedy. As they are not generally known to others, except from the experiments which have been made here, I ſhall relate the facts.

EXPER. I. June 8, 1769. Agnes M'Kay, 39, was ſeized, three weeks ago, with a violent pain in the articulation of the thigh bone, which neither ſtretches upwards nor downwards. ℞. Ol. tereb. drach. ii. mell. opt. unc. i. M. fiat linct. cap. coch. parv. mane & veſp. ſuperbibendo hauſtum potus communis tepidi. 10th, She ſweats after taking the medicine. The pain is eaſier, and it ſeems to ſtretch down the thigh. 11th, The pain has left the articulation of the thigh altogether; but has fixed in the poſterior parts of the thigh. 13th, Though the pain was much eaſier, yet a bliſter was applied. The pain went off and ſhe was diſmiſſed cured.

EXPER.

EXPER. II. May 19, 1770. George Temple, 62, has, for three years complained of a pain, which ſtretches down from the articulation of the thigh bone, along the outſide of the thigh to the feet; and has increaſed much during theſe three months. It affects ſometimes one leg, and ſometimes both, and is worſt when he is in bed. He has had a ſimilar pain in both arms, for three months, from the ſhoulder downwards; but moſtly in the right ſhoulder. He has thirſt; and his tongue is foul, and white. He feels, at times, a pain acroſs his back and loins. Pulſe 72. ℞ Ol. tereb. &c. 23d, He walks better. The pains of his thighs are eaſier, but thoſe of his arms are the ſame. He feels a peculiar ſenſation of heat after every doſe of his medicine, along the right thigh and leg, which he never felt before. 28th, He ſweated much laſt night. The pain of his thigh is much eaſier. 30th, The pain of the thigh is gone; but that of his ſhoulder is no better. A bliſter was applied to the ſhoulder, and the pain was removed. So that the

oleum

oleum terebinthiae, cured the pain of the thigh, but not that of the ſhoulder.

EXPER. III. Feb. 13, 1774. Margaret Tyrie, 56, has complained for fifteen weeks of great pain in the right haunch, thigh-joint, thigh, leg, and ancle. This pain was at firſt conſtant; but it has for theſe three laſt weeks abated, and has only attacked her irregularly. Of late, that leg has been affected with coldneſs, frequent tremor, loſs of motion and ſenſation; and is now waſted, and ſemiparalytic. But the diſeaſe differs from the true palſy, as the part is often affected with ſevere pain. Some of the flexors are contracted, ſo that ſhe cannot extend that leg. Her pulſe is about 90, and rather weak. This caſe was incurable. She had had two bliſters applied, at different times, to the thigh; had taken ſome purgatives and ſudorifics, and had been electrified, but without any ſucceſs. To try, however, the utmoſt power of this medicine, it was ordered. By miſtake, ſhe took the whole quantity in three doſes. It produced a violent ſtrangury, from its ſtimulus on the neck of the bladder. 17th, Pulſe 78. The pains

pains of her thigh are almoſt gone; and ſhe can ſtretch out her legs. 22d, She has much more motion than when ſhe came in. No more ſucceſs could be expected from any medicine.

EXPER. IV. Dec. 23, 1774. Chriſtian Stewart, 60, about ſix weeks ago, was ſeized with frequent ſevere cough, and much expectoration of a yellowiſh matter. About eight days ago, ſhe was attacked with violent pain in the left thigh joint and hip, which is increaſed on motion, and by the heat of the bed. The pain extends down the thigh and leg to the foot. As the cough continued very ſevere, and remained after theſe pains were eaſed, they did not appear to ariſe from any critical depoſition. She was ordered this medicine in the uſual manner. It proved diuretic. Next day, ſhe was eaſier. 3d, The pains of her thigh are much eaſier, and ſhe walks better. 4th, A pain and ſwelling ſeized the left thumb laſt night. Whether this had any connection with the ſciatica, may be doubted, as the pain of the thigh was no eaſier than might be expected from the

natural

natural progreſs of the cure. 6th, The ſciatic pains are gone, except a little in the ancle.

EXPER. V. Feb. 17, 1776. Donald M'Donald, 44, complains of a pain in the left haunch, which ſhoots down the back part of the thigh to his knee and foot, and renders him unable to walk. The pain is worſe before rain or ſnow. It is ſometimes ſevereſt in the day-time, and at other times during the night. The pain is not very great, except during motion. None of the affected parts are diſcoloured or ſwelled. The affected leg is cold and ſeems to be waſted; which was not known till after he came in; for, if it had, I ſhould have deſpaired of any ſucceſs. Pulſe 80, He had been bliſtered, had uſed the hot bath, had taken the decoction of ſeneka, the gum guaic, and opium, in vain. He was ordered this medicine, which took away his appetite; but it did not prove diuretic. 18th, The pain is eaſier, and he is able to walk. 23d, The ſciatic pain is gone. The other pains in the knee and ancle were ſtill uneaſy; to remove

remove which we were obliged to apply external remedies.

EXPER. VI. March 30, 1778. David Reid, 61, a porter, had been admitted for a lientery, of which he was cured. He afterwards complained of a ſciatic pain, which was of ſeven years ſtanding, and gave him much uneaſineſs when he mounted a ſtair. On the 11th of April, he took the linctus. 14th, The pain of his thigh and legs is gone, and he can now walk up ſtairs without uneaſineſs.

EXPER. VII. April 2. John Chalmers, 71, a butcher, complains of ſevere pains affecting him from the hip to the knee, on the right ſide. The pain is always eaſieſt in bed, is much relieved by warmth, and is increaſed by damp weather. The affected leg is very weak, and he cannot ſupport himſelf upon it in walking. Pulſe 90, and of natural ſtrength. He began to take this medicine. 5th, It produces a heat in the ſtomach, moiſture over all the body, and in the affected leg, and increaſed his urine. His pains are eaſier. 9th, The pain in the thigh is much diminiſhed, but that of his knee is ſtill

ſevere. A bliſter was applied to the knee. 16th, All the pains are gone.

Theſe are all the caſes of pure ſciatica to be found in my report-books, for ſeven years, in which this medicine was given. There are ſome others, complicated with the lumbago, which will afterwards appear under that diſeaſe. But I have cured a great number of patients, in private practice, during the many years I have uſed it. The following concluſions naturally ariſe from the preceding experiments.

1. Of the ſeven patients, five of them are men, and only two are women. Hence men appear to be more ſubject to this diſeaſe than women are. I have always found this to be the caſe. Men are more ſubject to the external cauſes which bring it on, as cold, ſleeping on the wet or cold ground, external force, and injuries, much venery, &c. Hippocrates mentions it as ariſing from a ſuppreſſion of the menſes in the wife of Palimarchus; but I do not remember to have met with this cauſe. The following obſervation will contribute to prevent this from often being a cauſe of this diſeaſe.

2. Our

2. Our patients were moſtly far advanced in life; four of them were paſt 60; one was near that age; one was 44; and the youngeſt was 39. All my other patients were of advanced years, and I do not recollect ever to have ſeen one in this diſeaſe in the vigour of life.

3. This diſeaſe is generally claſſed along with the rheumatiſm, from a ſimilarity of pain, which in both is increaſed by the heat of the bed, and in the night-time, though that does not always happen, as in Exp. V. and VII. How far this opinion, of its being rheumatic, is true, may admit of much doubt, from the following reaſons: 1. Men ſeem to be more ſubject to ſciatic; women, to the rheumatiſm. Of 18 patients, which I have had in the acute rheumatiſm, in the clinical ward, 14 were women; ſo that women are attacked with the rheumatiſm oftener than men, in the proportion of three and a half to one. 2. This diſeaſe general ſeizes thoſe of advanced years. But, in the acute rheumatiſm, it is the reverſe. Of 15 caſes of acute rheumatiſm in which the age is marked, 12 happened in patients under 30

years of age; and the remaining others between that age and 36. This is a material diſtinction, ariſing from our caſes; nor does this diſeaſe ſeem to attack thoſe moſt ſubject to rheumatiſm. 3. The ſymptoms of the two diſeaſes differ in many points. In the ſciatic, the pains are more fixed, and do not flit, as in the rheumatiſm; as in Exper. VI. the pain remained in the part for ſeven years. In the former, the whole extremity is affected from the haunch, or thigh-joint, to the toes; in the latter, it is not ſo. The latter has an inflammatory fever, and ſizy blood; the former, has not. The latter has generally a criſis by urine, though the diſeaſe is tedious; the former has none. 4. They differ in the cure. The ſudorific method has not ſuch effect in the ſciatic, as in the rheumatiſm. The oleum terebinthinæ, has not the ſame ſucceſs in the rheumatiſm, as in the ſciatic. In Exper. II. it removed the pain of the thigh, but had no effect on that of the ſhoulder. In Exper. IV. V. VII. after the ſciatic was cured, we ſtill find the rheumatic pains in the knees and ancles remaining, to which we

were

were obliged to apply other medicines. Theſe conſiderations ſhow a ſufficient diſtinction betwixt the two diſeaſes.

4. From the preceding caſes, I am inclinable to place the ſeat of this diſeaſe in the ſciatic nerve. The thigh joint is certainly attacked with rheumatic pains, as other articulations are; although, perhaps, not ſo often; as the ligaments which ſurround it are leſs ſubject to the preſſure of the whole body, and of the neighbouring parts, than thoſe of the other joints. The ligamentum orbiculare, within it, muſt be likewiſe attacked with rheumatiſm. Morgagni has two caſes where this joint was much affected, the ligamentum orbiculare flaccid, the mucous glands ſwelled, and the cartilages red or eroded. Perhaps the muſcles may be affected too, as there is a caſe in Bonetus, from a ſuppuration of the rotator muſcle. But I would conſider theſe as pure rheumatiſms. The ſciatic nerve was, amongſt the antients, looked on as the ſeat of this diſeaſe; hence it was called morbus iſchiaticus. The following conſiderations ſupport this opinion: 1. It is generally complicated,

more or leſs, with lumbago pains, as the preſent caſes ſhow, and the following under lumbago prove yet more; or, at leaſt, it begins in the loins. It is from the lumbar nerves, &c. that the ſciatic is compoſed. Hence pain is often felt there. 2. The pain follows the courſe of the ſciatic nerve. The pain is felt about the thigh joint, as the nerve paſſes behind the great trochanter. It is felt, generally, in the back part of the thigh, ham, calf of the leg, to the foot, which is preciſely the courſe of the nerve. 3. The patient loſes the ſenſation of that extremity, feels an inability to move its muſcles, and labours under a claudication and paralytic ſtate, as in many of the caſes; all which ſymptoms ſhow it to be a nervous affection. 4. The member, at length, is waſted, as in the palſy, which happened in Exper. III. and V.

But the preciſe cauſe of this ſciatic affection is dubious. Cottunni thinks that it is owing to an hydropic effuſion betwixt the nerve and its coat. He even builds, upon this idea, his method of cure, which is to perforate, by means of thek nife of cauſtic,

cauſtic, into the hydropic coat, and lay it open. But we muſt conſider this opinion as ideal; for he ſupports it with no deciſive arguments, and with one diſſection only, which is even allowed by himſelf to be inconcluſive. It is even contrary to appearances, as this diſeaſe would more frequently attend dropſies, as our caſes were not complicated with dropſy; as, in one caſe, the pain ſhifted alternately from one leg to the other; and as the diſeaſe was ſo ſoon cured. Is it owing to a determination of fluids, perhaps of an acrid nature, to the veſſels of that great nerve? This is probable, from the degree of fever and feveriſh ſymptoms which attend it; from its being often owing to critical depoſitions; and from evacuants and diſcutients removing it.

5. The cure of this diſeaſe has been attempted by external and internal remedies. The antients uſed hot and acrid cataplaſms of wine, ſalt, &c. and friction with hot oils. Hippocrates recommends the cucurbitulae cum ferro, and the actual cautery to produce ulcers, which were to be kept open for a length of time. Though theſe remedies

may prove ſucceſsful, yet bliſters have ſuperſeded their employment. But even bliſters are often of no uſe, as in Exp. III. and V. The hot bath is frequently applied. I often uſe friction with the fleſh-bruſh ſucceſsfully; although Cottunni is afraid that it will bring a determination to the part. But friction always determines to the ſkin, increaſes the perſpiration, and frees the more internal parts.

The internal remedies are venaeſection, purging, and ſweating. Hippocrates recommended all theſe. If the pulſe is ſtrong, bleeding is neceſſary. But, as this diſeaſe generally attacks the old and debile, venaeſection has but ſeldom been ordered. March 11, 1778. Helen Wilſon, 40, convaleſcent, on expoſure to cold, was ſeized with the ſciatic, two or three weeks before ſhe came in. She was bled, and ſhe recovered without any other medicine. Hippocrates uſed purging and acrid clyſters much. I have tried purgatives in vain. His ſucceſs might have been owing to the more acrid purgatives then in uſe. Theſe will not only evacuate, but irritate the rectum; and ſo relieve the

affections

affections of the neighbouring parts. De Haën has endeavoured to trace a communication betwixt the veſſels and nerves of the rectum and ſciatic nerve. But whether this has any effect is difficult to ſay. Sudorifics have been uſed. But ſome of our patients had tried them without ſucceſs. Some more effectual remedy, therefore, was neceſſary.

The oleum terebinthinæ given in the method preſcribed by Dr. Cheyne, with a draught of ſack whey, or warm drink after it, appears to be a moſt powerful medicine. Of the ſeven caſes, it cured five, and relieved two; and theſe latter could not admit of a cure, as the parts were emaciated. Of theſe cured; the diſeaſe was of three years ſtanding in Exper. II. and of ſeven years in Exp. VI. It is not to be expected, that any medicine will operate more powerfully than this does.

6. Its ſenſible operation is various. It often produces a heat in the ſtomach, and diminiſhes the appetite. It heats the part, and raiſes a peculiar ſenſation of pain there. It proved diuretic in Exp. IV. and VII. and, when uſed in too great

quantity, it brought on a ſtrangury, as in Exp. III. It was followed by moiſture in Exp. I. II. VII. It ſometimes performed the cure in four days, as in Exp. VI. where the patient had been under the diſeaſe for ſeven years; but the preceding diarrhoea had, perhaps, made it more eaſily curable. It ſometimes requires fourteen days.

7. It is difficult to explain its mode of operation. Does it act by ſtimulating and heating? Other ſtimulants have not the ſame effects. Does it operate by its diuretic powers? Other diuretics do not cure this diſeaſe, and it often cures without an increaſed diſcharge of urine. Does it operate by ſweating? Other ſudorifics do not cure; and it often has no ſuch effect. It is, perhaps, impoſſible to explain its operation, as we do not know how the nerve is affected; nay, we are not ſure, though it appears probable, that the nerve is the ſeat of the diſeaſe. I am inclined to think that its operation is topical, from the peculiar ſenſation of heat, and pain felt in the part, after each doſe, as in ſome of the above caſes.

SECT.

SECT. XIV.

Experiments upon the effects of a liniment in the Lumbago.

We are yet more at a loſs in the pathology and cure of the Lumbago, than of the ſciatic, as the former rarely occurs, as no diſſection of it has been recorded with which I am acquainted, and as no author, Sydenham excepted, has treated of it. It is a diſeaſe, however, of the moſt painful kind, and of difficult cure in the common methods employed. It is deſcribed in the Medical Facts, as I had once an opportunity of ſeeing it epidemic amongſt the Britiſh troops in Ghent. An external application is there mentioned, which ſucceeded, in that epidemic conſtitution; and ſeveral phyſicians have ſince that time uſed that remedy with advantage. I ſhall deſcribe the caſes in which I have lately applied it in the clinical ward.

EXPER. I. Feb. 21, 1774. Donald M'Donald, 29, after ſleeping in a damp cellar, was affected with pains in his loins, which

which ſtretched down both the thighs and legs to the toes. He is obliged to retain his body in a curved poſture, as he has much pain in endeavouring to raiſe and keep it erect. After theſe ſymptoms had continued for ſome time, his urine and faeces were paſſed involuntarily, and his legs became paralytic. ℞ Camph. ſcrup. i. diſſolut. in ol. tereb. drach. ii. S. C. C. gr. xv. Pulv. ſem. cymin. drach. ii. dein add. ung. nervin. unc. ſs. ſapon. nigr. com. unc. i. M. fiat linim. extende ſuper alutam & applic. lumbis. 25th, The pains of his loins are eaſier; but thoſe of his limbs are the ſame. Rep. linim. March 3d, he can raiſe his body to an erect poſture, and keep it in that ſituation without pain. He was afterwards ſeized with a mortification of the nates, either from lying on them, or from a paralytic diſpoſition.

Exper. II. March 6. George Brown, 32, after expoſure to cold, complained of pains which ſtrike acroſs his loins, but moſtly to the left ſide, and are worſt in the morning, and while he is warm in bed. He walks with difficulty, and he cannot lie on either ſide. His urine is high

high coloured. He ſleeps little. Pulſe 70. The liniment was applied. 7th, The pains of his back are eaſier. 9th, The pains of his back and thigh are gone.

EXPER. III. Dec. 20, 1776. John Boys, 37, ſailor, after expoſure to cold, has been for ſome months affected with pain in his loins, which affects the thigh-joint, and goes down the legs to the feet. He had the liniment applied, and was relieved by it; but he was not quite cured. His loins were bliſtered; but the pain was not removed by it. The part was afterwards burnt, according to Peautau's method, in two places, an inch on each ſide of the ſpine, and the ulcer was kept running for ſome time; but it did not cure him. He afterwards got mercury, but with no better ſucceſs.

EXPER. IV. April 16, 1778. Donald M'Arter, 50, about a month ago, without any viſible cauſe, was ſeized with ſevere pains in his loins and haunches, ſtretching down his thighs, eſpecially on the right ſide. He could not raiſe his body erect, unleſs with much pain. He had heat and thirſt. His pains were eaſier with the

warmth of the bed. When he came in, the ſymptoms were not ſo ſevere as they had been. Pulſe 80. He had taken ſalts, and applied oil of turpentine to the part, without relief. The liniment was ordered to the loins; but by miſtake it was applied to the thigh. 19th, The pain of the thigh is eaſier, but that of his back is the ſame. It was then applied to the loins. 23d, The pain of his back is much eaſier; that of the thigh gone. 26th, Diſmiſſed cured.

From the above experiments, the following concluſions ariſe:

1. That the lumbago is very much allied to the ſciatic. In all the four caſes, the pains ſtretched down the thigh, as in the ſciatic. In three of the four, they reached to the toes. Hence ariſes a concluſion, that both diſeaſes are affections of ſimilar parts; and that the ſeat of the lumbago is in the numerous nerves, which go to conſtitute the great ſciatic nerve. The diſtinction between the two is merely local. I endeavoured, many years ago, to ſhow, that the lumbago is not ſituated in the kidnies and ureters, as Sydenham thought;

thought; and the preceding caſes ſtill confirm me the more in this opinion. The pain does not follow the courſe of the ureters; it is not increaſed by external preſſure; it is but little felt, except in an erect poſture; there is no vomiting; and the urine is not changed in quantity or quality. I then thought that this diſeaſe was a ſpecies of the rheumatiſm, affecting the pſoas and muſculus tranſverſalis, and the ligaments of the lumber vertebrae, as the pains excited on extending the vertebrae and thoſe of the knees and ancles ſeemed to ſhow its analogy to other rheumatiſms. But it appears now more probable, that the ſeat of the lumbago is in the lumbar nerves, as it is ſo often complicated with the ſciatic; as the pain goes down the thigh to the toes; and, as it affects the bladder, rectum, and legs, with palſy, which parts are ſupplied by theſe nerves.

2. This diſeaſe ſeems not to attack perſons ſo far advanced in life, as the ſciatic does. But ſtill it does not ſeize the young and vigorous; as, of the preceding patients, two are about 30, one 37, and one paſt 50. The others which I have ſeen were all older; ſo that there

ſeems

ſeems to be no great difference betwixt theſe two diſeaſes in this circumſtance. In this it differs, too, from the rheumatiſm.

3. Theſe patients are all men. In this, likewiſe, it agrees with the ſciatic. In this, too, it differs from the rheumatiſm. That part in men, betwixt the veſt and breeches, eſpecially when the latter deſcend, is very acceſſible to cold.

4. When the reſult of my former practice, in this diſeaſe, was publiſhed, it was obſerved, that repeated bleedings, as directed by Sydenham, were not found to be ſo very uſeful as he had experienced them to be. This diſeaſe is ſometimes inflammatory, in which caſe bleeding muſt be performed. But it has oftener been found not requiſite, as in all the preceding caſes. With regard to purgatives, the ſalts were of no uſe in Exper. IV. I have often ſeen purgatives bring back the pains, when they ſeemed to be going off. Bliſters did not cure it when epidemic. In Exper. IV. they were applied in vain. From the bad ſucceſs of Sydenham's method, I was led to try the above topical application, which ſucceeded. We find, that,

that, in the four preceding caſes, in which it was applied, it cured two; and relieved the other two, one of which could admit of no more than a relief from the pain, as the parts had become paralytic, and a mortification had come on.

5. It produced its ſalutary effects in a ſhort time, from four to eight days. The liniment was always renewed, every three days, as when allowed to ſtay on longer than this it turns hard and crumbles.

6. It appears to act topically, as aſſerted formerly in the Medical Facts; becauſe, when it was at that time applied to the knees, the lumbago was no better. The ſame trial was again repeated in Exper. IV. by accident, when it was applied to the pain in the thigh, without any ſucceſs. It probably acts by ſtimulating the nerves of the part, by which a topical fever is induced. The ſalutary effects of this cauſe on the ſyſtem appear every day. In this way, the cure of the ſciatic was performed by nature, in the following caſe.

Feb. 18, 1776. John Donaldſon, 43, was affected with the ſciatic 16 years ago, and

and with an ague laſt autumn, in Lincolnſhire. He had lately a return of the ague, at which time he was ſeized with pains in his loins, haunches, and thigh-joint, which ſtill continue. His ſkin is moiſt, and his belly bound. His tongue is white and dry, and his urine is in ſmall quantity. Pulſe 86. He had a purgative; and after its operation, he was again ſeized with the ague. The paroxyſm was long, and the ſweating profuſe, after which his lumbago pains became eaſier. He had a ſecond fit, and the pains were ſtill diminiſhed. He had a third fit, after which he felt no more pain. This lumbago probably aroſe from a critical depoſition in the former fever, and a new fever cured it. By the quickened action of the heart and arteries, eſpecially thoſe of the part, the cauſe was removed. As this effect was expected, the fits were not ſtopped.

SECT. XV.

Iſchuria.

ISCHURIA RENALIS.

Morgagni appears to be the firſt who properly diſtinguiſhed the iſchuria into its four

four different ſpecies, Renalis, Ureterica, Veſicalis, and Urethralis; ſince the ſeat of the diſeaſe may be in each of theſe different parts. Caſes where the kidnies or ureters alone are affected, are rare; for, when one kidney or ureter is diſeaſed, the other will ſupply its function. Theſe two parts are double, whereas the parts which give names to the two laſt ſpecies of this diſeaſe are ſingle. Morgagni ſays, that neither he nor Valſalva had ever inſpected the body of any who had died of the iſchuria renalis. A mortal caſe of this diſeaſe, with the diſſection, which is ſo rare, muſt therefore merit our attention.

HISTORY I. January 16, 1775. Robert Muir, 35, a coachman, of a full habit, was ſeized with ſhivering, coldneſs, and ſevere cough, about three weeks before this time. In three days his urine appeared to be high coloured, was paſſed with pain, and in leſs quantity than uſual. About the 8th day, he was attacked with violent pains in the ſmall of his back, over the whole abdomen, and in the ancles. He felt, too, a pain in the region of the liver, eſpecially when it was preſſed. He ob-

ſerved, afterwards, a general ſwelling over the whole body; but moſtly in the ancles and abdomen, which laſt was tenſe and hard. Theſe were attended with vomiting, impaired appetite, and conſiderable thirſt.

When he entered into the clinical ward, the cough, ſickneſs, and vomiting had gone off; but the dyſuria remained. As his urine was always paſſed at the ſame time with his ſtools, I ſaw it but once, and then it was pale, and had a white powder at the bottom. The pains and ſwellings, which retained the impreſſion of the finger, continued; and the ſcrotum and penis now ſwelled. He complained of head-ach. His tongue was white, and it was generally dry. His body was natural. He had no ſweat. His pulſe was 48.

The next day, which was the 22d of his diſeaſe, before he took any medicine, he was ſeized with a natural purging, which continued through the whole diſeaſe, along with the ſuppreſſion of urine, of which he never paſſed above a gill, and often only half that quantity, through the day. 25th, He complained of ſevere pain about

about the kidnies. 26th, A drowſineſs and coma began to appear. 27th, Pulſe 72, the vomiting returned. 28th, Pulſe 66, and for the firſt time ſtrong. He vomits frequently. Coma increaſed. His body is open. The pain about the kidnies is eaſier. He had frequent ſtartings, which continued through the diſeaſe. 29th, Pulſe 80, and, although he had been bled, it was ſtill ſtrong. He vomited often, and ſtarted much. The ſwellings of his legs, ſcrotum, penis, and abdomen, are much fallen. 30th, Theſe are ſtill more diminiſhed. He has greater inſenſibility and a hiccup. He has no vomiting; but he has a looſeneſs and drought. 31ſt, Pulſe 82, and ſtill ſtrong. He ſweated much this morning. He cannot ſwallow. He died in the evening.

The kidnies were found of an irregular form, ſome watery veſicles appeared on their ſurface, containing black gritty particles like fine ſand, and the lower part of the right kidney was conſiderably inflamed. The pylorus, part of the duodenum, and a conſiderable part of the ſmall inteſtines, were much inflamed. In the abdomen

were found about five pounds of fluid, and in the cavities of the thorax about half a pound. The lungs were a little inflamed, and full of ſmall tubercles on their ſurface, and in their ſubſtance. The heart was large, and there was a polypus in each ventricle. About ſix ounces of fluid were found in the pericardium. Nothing appeared preternatural in the brain, except about an ounce of water in each ventricle.

This iſchuria had its ſeat in the kidney, as there was no ſwelling in the inferior part of the abdomen; as he had no ſolicitation to paſs urine; as the catheter, when introduced, diſcovered none in the bladder; and as the inſpection of the body ſhowed that none had been ſecreted.

What was the immediate cauſe of this renal affection? The calculus is a general cauſe; but none was diſcovered. Are we to accuſe inflammation, as a little appeared in one kidney? I hardly deem that the cauſe, as then it would have been attended with violent pain, fever, and other ſymptoms of nephritis. Beſides, the other kidney, where none was found, would have

ſup-

ſupplied its defect. Hence, the cauſe ſcarcely appears to be topical, as the probability, in that caſe, would have been, that one only ſhould have been affected.

Was it owing to any acrid matter? This ſeems ſometimes to occaſion it, as the urine is often diminiſhed in the criſis of fevers, when its acrimony appears from the heat and pain it excites; and as Morgagni * mentions a repelled cutaneous eruption as the cauſe. It does not ſeem to be owing to any quantity of mucus blocking up the tubuli uriniferi, which ſometimes may happen, for none was ſeen.

It was probably owing to an arthritic cauſe, as, 1. We were informed, after his death, that he had laboured, for many years, under the gout; that he had five fits during theſe two laſt years; that he had it laſt May; and that his preſent complaints came on like a fit of the gout. 2. As the gout alternates with nephritic complaints. This is Hoffman's opinion; and Sydenham ſays, that it produces calculi in the kidnies. 3. As gouty com-

* Vid. Cap. XLI. De Urinæ Suppreſſione.

plaints alternate with oedematous ſwellings ſuch as he had. John Young, March 31, 1774, a patient in the clinical ward, was ſeized with ſevere pains in his feet and legs, and oedematous ſwellings appeared afterwards. In another caſe, after pains of the ſtomach, oedematous ſwellings ſucceeded. 4. His urine, which was of a pale colour, ſhowed that there was a ſpaſmodic ſtricture of the ſecreting organs.

Here the iſchuria was the cauſe of the oedema and dropſy, and not theſe the cauſe of it; as the iſchuria appeared for ſome days before them; and as theſe were much diminiſhed before he died, but the iſchuria ſtill continued.

The retention of the urine, and the increaſe of ammoniacal ſalts and acrid oils in the body, muſt have given riſe to a number of thoſe ſymptoms, as thirſt, head-ach, pain in the breaſt, nauſea, vomiting, ſtartings, hiccup, fever, &c. The ſuperabundant fluids were ſecreted in greater quantity, by the exhaling veſſels of the cavities, and produced hydropic ſwellings; by thoſe of the inteſtines, and produced purging; by thoſe of the ſkin, and produced

duced ſweat. In ſome caſes it ſeems to have been ſecreted by the ſalivary glands, and then to have retained the natural taſte of urine. The very ſlow pulſe, which we diſcovered at firſt, may be attributed to the water found in the ventricles, which, perhaps, had been diminiſhed along with the other hydropic ſwellings by the conſequent evacuations. Perhaps, there might have been, at firſt, ſome collected on the ſurface of the brain. To the ſame cauſe the comatoſe ſtate is to be attributed.

He had taken many diuretic medicines before he came in; but in vain, as we had not heard of his arthritic habit, which would have altered the treatment, and pointed out ſome applications to the feet. The only diſeaſe that appeared was the iſchuria, and conſequent dropſical and oedematous ſwellings. From the dulneſs of the pain, and from the ſlow pulſe, no inflammatory ſymptoms appeared, at firſt, ſufficient to require bleeding, or any other evacuation. It was probable, that an increaſe of urine would abate all his complaints. Diuretics ſeemed, therefore, to be firſt and principally, indicated. Cream of tar-

tar, as diuretic, laxative, and antihydropic, appeared to be the moſt proper medicine. The natural looſeneſs did not contraindicate it, but rather encouraged us to proceed, as it ſeemed to be an effort of nature to cure the diſeaſe; beſides, I had given it before in a natural purging, without increaſing that evacuation. He took half an ounce of it, each morning; and it produced two or three ſtools, which he would otherwiſe have had from his looſeneſs. To relieve any ſpaſms in the ſecreting organs, he had each night, at bedtime, twenty drops of laudanum with a ſcruple of nitre. He continued for eight days this courſe, without any increaſe of his urine. We then tried ſtronger diuretics, as the infuſion of the juniper berries and pills made of garlic. But they were attended with no ſenſible advantage.

Whenever the pulſe became ſo ſtrong as to bear bleeding, he loſt eight ounces of blood, which was ſizy. As he ſeemed to be eaſed by it, and as the pulſe continued ſtrong, it was repeated thrice. He ap-

appeared eaſier after each bleeding, his pulſe bore it well, and the ſwellings and other ſymptoms abated. The heating diuretics, in this ſtate, were given up, and a mixture of vinegar and nitre was ſubſtituted in their place, in each doſe of which, taken every two hours, there was a ſcruple of nitre. Fomentations were applied to the region of the kidnies, and camphorated oil was afterwards rubbed on the part. He was ordered the ſemicupium, which, from a deficiency of water at that time in the town, he got only once; and which then ſeemed to have a good effect, as he paſſed a gill of urine when he was in the bath. As the coma and inſenſibility ſeemed to indicate ſome compreſſion of the brain, an acrid clyſter was ordered, to evacuate, and relieve the head. But it did no ſervice, as water in the venticles is not eaſily abſorbed.

ISCHURIA VESICALIS.

An iſchuria, without any diminution of urine, may ſeem to be a contradiction; of which, however, caſes occur. The natural

tural quantity of urine, or more, perhaps, may be paſſed, and yet the patient die, from a diſtenſion of the bladder. No definition of the iſchuria comprehends this caſe; ſo there is no wonder that phyſicians miſtake it for ſome other complaint. A diſeaſe, which ſo far deviates from its conſtant and fixed character, muſt be curious and inſtructive.

Hist. II. March 3, 1778. Archibald Ferguſon, 58, of a ſtrong ſpare habit, and never ſubject to the gravel, had, during all laſt winter, a cough, with expectoration, which retired on the approach of his preſent complaints. About the 17th of February, he felt ſome difficulty of paſſing his urine, and much pain about the region of the bladder, which was eaſed on voiding urine. He continued in this ſtate until the 27th, at which time he turned eaſy upon the application of ſome medicines. After this, the abdomen ſwelled, and he had pains in his loins and thighs. When he came into the clinical ward, March 3d, his abdomen was ſwelled and tenſe, and an evident fluctuation was felt, while ſome who touched him thought that

the

the ſwelling was ſonorous, and produced by wind. The former had felt the abdomen below the umbilicus, ſo they muſt have felt a fluctuation; while the latter probably had touched the upper parts, where they could find none. A tumor was diſcovered betwixt the umbilicus and ſpine of the os ilium, on the left ſide, which gave him much pain, eſpecially when preſſed. This tumor became more eaſily felt after the ſwelling of the abdomen decreaſed; it ſeemed to be round; and it was very near as large as the head of a child. It appeared very much on the left ſide; and I often felt it in that ſituation, even when he lay on his right ſide, and the tumor then became dependent. He paſſed urine frequently, and rather more than in health, as we computed it to be about four pints a day. It was always clear, and of a light colour. His body had a diſagreeable ſmell; his ſkin was dry; his body was bound; and his appetite was entirely gone, ſo that he had hardly taken food for twelve days. His legs ſwelled ſlightly, for ſome days, in the evening. His pulſe was generally regular;

gular; ſometimes ſlower than natural, as I felt it once at 64; and ſometimes quicker, as at 92. It is once marked rather ſtrong. He was often ſeized, eſpecially after eating or drinking, with hiccup, which increaſed and laſted till his death. He had ſlept little. His anſwers were very indiſtinct; ſo that we never got his real, but often his falſe feelings, which contributed to deceive us. On the 20th day of his diſeaſe, after ſome doſes of ſquills, the general ſwelling of the abdomen fell, became much ſofter, and diſcovered, more diſtinctly, the ſwelling of the left ſide. 21ſt, A vomiting appeared. 22d, He became more indiſtinct, and delirious. 23d, He died.

When opened, the tumor, which was ſo diſtinctly felt in the left ſide of the abdomen, between the umbilicus and os ilium, was owing to a diſtenſion of the bladder from urine. It was now in its proper ſituation, its fundus reached to about the diviſion of the aorta into the iliacs; it entirely filled the pelvis, and contained between five and ſix pounds of urine, of a pale colour. On examining the

the external ſurface of the bladder, its neck, and the beginning of the urethra, were found to be ſurrounded by a ſchirroſity, which impeded the evacuation of the urine. The bladder itſelf was much thickened, but not more in one part than in onother. The ureters entered naturally; but they were much thickened in their upper half, neareſt the kidney. The kidnies were ſomewhat enlarged, particularly the left, which had ſeveral watery veſicles on its external ſurface. They were not in their uſual ſituation, but lay cloſe on each ſide of the ſpine, and very near the aorta; ſo that the renal veſſels were very ſhort. What was very ſingular, the lower end of each roſe over the ſpine, and they were united together in their membranes and ſubſtance, the aorta paſſing beneath the union. The bladder had preſſed conſiderably on this part; and the peritoneum covering them was conſiderably thicker than natural. In the thorax, the lungs were found adhering to the pleura every where, and in ſome parts very firmly. The lungs were of a looſe texture, and of a black colour. There was about an ounce

of

of water in the pericardium. The veins of the lower extremities ſeemed to be very turgid with blood.

Thus we are indebted, for a diſcovery of this curious diſeaſe, to diſſection, without which we never could have known or believed what it really was. I could never conſider it as an iſchuria veſicalis, which, in fact, it was, as it wanted its characteriſtical marks. 1. There was no ſuppreſſion of urine, which is the very definition given. 2. There was no ſwelling or weight of the hypogaſtric region, which is Sauvage's definition. There was, indeed, a large ſwelling on the left ſide; but that is not the ſituation of the bladder. 3. He had not the conſtant deſire, nor made any vain attempts to void urine, which is another mark. So that his diſeaſe wanted the pathognomonic ſigns of the iſchuria.

I had not the leaſt doubt but that it was an aſcites, as he had a previous ſtoppage, or defect of urine; a ſubſequent ſwelling of the abdomen; an evident fluctuation, as it appeared to me; preceding pains of the liver, a tumor felt on the left ſide, which I conjectured might be a ſwel-

ling of ſome of the meſenteric glands; thirſt; his tongue and ſkin dry; and his body bound. I proceeded on this idea; but diſſection diſcovered that I was miſtaken. I need not bluſh, however, at the miſtake, ſince Rhuyſch and Morgagni, two ſuch eminent anatomiſts, were deceived in the ſame way. Rhuyſch*, gives a caſe of a great ſwelling of the abdomen, which was owing to a diſtenſion of the bladder, though not ſuſpected to be ſo by him. Morgagni † gives a caſe exactly ſimilar to that of our patient, where he had leſs reaſon to be miſtaken, becauſe in his caſe the tumor was in the middle of the body; but in the preſent diſeaſe, it was in the left; and becauſe in his caſe the brain was not affected, while our patient was always very indiſtinct. He ſeems to have attended the woman before death, and mentions the quantity of urine, "Aſſiduum urinae "ſtillicidium." He miſtook it for a ſwelling of the uterus, "Nemine dubitante, "quin ex cancroſo uteri tumore deceſſiſſet." On diſſection, "Apparuit veſicam urina

* Vid. Adverſar. Anatom. Dec. 2. cap. 9.

† Vid. Epiſt. xxxix. Sect. 33.

"diſ-

" diſtentam, id quod nemo, jugiter lotio, " ut dictum eſt, diſtillante, inducere in " animum potuiſſet, magnam illam " tumorem fuiſſe." He deſcribes the ſtate of the bladder, " Suos reliquos pa- " rietes omnes ex dura albaque ſubſtantia " digiti craſſitudine habebat." The very ſtate of urine was the ſame as that of our patient. " Cujus magnam vim continebat; " non lixivioſae, non craſſae, non gra- " veolentis, ſed fere aquoſae." The caſe was ſimilar, and as fallacious as that which we have related. There is another caſe in Lieutaud.

As this diſeaſe ſeems ſo very different from the common iſchuria, Sauvages, in his Nouvelles Claſſifications de Maladies, the firſt attempt towards his Noſologia Methodica, calls it Hydrops Veſicae. But it would be improperly claſſed amongſt hydropical diſeaſes, as in this there is an increaſe, rather than a defect of urine, as the fluid contained in the cavity is not coagulable; and as the diſtenſion of the gall-bladder from gall, or the inteſtines from alimentary matter, might, with equal propriety, be termed a dropſy.

This

This diſeaſe probably aroſe, at firſt, from a ſcirrhus about the neck of the bladder, which occaſioned the pain and ſtoppage of urine, felt at the beginning of the diſeaſe. After this time, the bladder ſeems to have been conſtantly diſtending, which muſt have been attended with great pain, unleſs, at the ſame time, it became proportionably ſcirrhous. The pain afterwards diſappeared, and the urine came off plentifully, which made him conclude that the ſymptoms had gone off on the application of ſome remedies. His belly then began to ſwell, as the bladder took up more room. I felt a fluctuation, as I had ſtruck the bladder. Others, probably, had touched his abdomen higher, and had felt it ſonorous, from the air being collected in the inteſtines by the preſſure of the bladder on them. The tumor was very painful when preſſed, as the diſtended bladder muſt be. But, how this tumor ſhould always, during life, be felt ſo much on the left ſide, even when he was lying on his right, while after death the bladder was found in the middle, I can give no account.

The urine came off in conſiderable quantity, from the action of the abdominal muſcles compreſſing the diſtended bladder; but, as the bladder, from its ſchirrous ſtate, had loſt its muſcular action, little of the urine could be evacuated at once. His legs ſwelled, from a compreſſion of the iliacs. The ſtrong ſmell was owing to the cuticular diſcharge becoming more lixivial, as the urine was ſo clear. His pulſe was ſeldom quicker, ſometimes ſlower, than natural, perhaps from ſome fluid being extravaſated within the cranium. The ſudden decreaſe of the ſwelling of his body, aroſe from wind getting off during the operation of the ſquills, from the urine paſſing in greater quantity, and perhaps from ſome fluid being depoſited in the abdomen, and being afterwards carried off. The hiccup, vomiting, and delirium, were owing to lixivial ſalts, and acrid oils retained, which always excite theſe ſymptoms.

He got a few doſes of dried ſquills, which diminiſhed the ſwelling of his belly, and brought off much wind. For the hic-

hiccup he got a mixture of muſk, and afterwards opium; but without any good effect.

What would have been the conſequence of drawing off the urine by the catheter? In Rhuyſch's caſe, it did good, and the internal coat of the bladder came off mortified. But it could not have cured either our preſent patient, or that mentioned by Morgagni, from the ſcirrhous ſtate of the bladder, ureters, and urethra, although it would have given immediate eaſe by removing the diſtenſion.

I ſhall conclude the account of this caſe with Morgagni's obſervation, "Multipli-"ces, ad cautos reddendos medicos, uti-"litates habet haec obſervatio."

Hist. III. January 5, 1779. John M'Arthur, 60, about three months before this time, was ſeized with difficulty of paſſing urine, and with conſtipation, which were relieved by ſome medicines. But theſe ſymptoms ſoon returned. About five weeks ago his belly was ſwelled, from a tumor in the hypogaſtric region. About a week after, a hiccup came on; and, in a few days, he was ſeized with vomiting,

both which ſymptoms have continued ſince that time. At the time he was admitted, he had the ſwelling of the hypogaſtric region; a dyſuria, but without pain; a vomiting; and hiccup. He had loſt all appetite, had thirſt, and conſtipation, which always attended him. His pulſe was 110, and weak. In the evening, about three pints of pale clear urine, without much ſmell, were drawn off. The next day, we found all the ſymptoms gone, except the pains, which were eaſier. After this, he continued to paſs ſome urine, ſometimes voluntarily, ſometimes involuntarily and inſenſibly; but ſo much always remained behind, that his bladder was conſtantly full, unleſs when the urine was drawn off, which was done twice every day. The urine was ſometimes pale, ſometimes of a deep red colour, and once there was ſome coagulated blood mixed with it, which, perhaps, might have been occaſioned by the catheter. About the ſixth day, we found the urine very putrid, much purulent-like matter at the bottom of it, and paſſed then with more pain. About the 11th, the putrid ſmell diſappeared. On the

12th,

12th, all his urine was paſſed inſenſibly, except what was drawn off, and his hiccup had returned, but was more gentle. In this way he continued without fever, but he was often much troubled with hiccup, eſpecially during theſe nights, when the urine had not been drawn off the preceding evening. A month after admittance, his bladder, without the aſſiſtance from the catheter, was almoſt entirely, though inſenſibly, evacuated, and the hiccup had left him. When my attendance in the clinical ward was finiſhed in the middle of February, he remained behind, without fever, hiccup, &c. and as much relieved as, perhaps, the caſe could admit of. He had no complaint, but that of voiding his urine inſenſibly, a natural effect of a ſcirrhous bladder, which appeared to me incurable.

I had heard but a few words only from this patient, in the waiting-room, and thoſe badly interpreted, as he could only ſpeak the Erſe language; when, from the ſimilitude of his caſe to that of the preceding patient, I ſuſpected his diſeaſe to be an iſchuria; and, I was convinced of this

before the caſe was taken, when laying my hand on the hypogaſtric region, I diſcovered a ſwelling there.

Almoſt all noſologiſts have defined this diſeaſe to be "a ſuppreſſion of urine." But both theſe caſes ſhow this definition not to be proper, nor ſufficient to point out the diſeaſe; for, in both theſe patients, much urine was paſſed; nay, in the former caſe the quantity was rather above the natural evacuation. Others define it to be "a con-"ſtant deſire to paſs urine, but with vain "attempts." But, in neither of theſe patients was there a great deſire, and the attempts were not in vain. Sauvages's definition is a good one; "tumor hypogaſtrii "ex urinae retentione," as both our patients had a conſiderable ſwelling there, and in the caſe related by Morgagni there was the ſame ſymptom. This tumor muſt neceſſarily be always preſent, and be felt. But, in the former patient, it was very much to the left ſide, even though he lay on his right, which deceived me. I would therefore define it, "Dyſuria, cum tumore hy-"pograſtrii, &, in progreſſu morbi, vomitu "& ſingultu." Theſe two laſt ſymptoms

ſeem

ſeem neceſſarily preſent in the progreſs of the diſeaſe.

There are many of the ſymptoms in this diſeaſe, as dyſuria, &c. ſimilar to thoſe attending the ſtone in the bladder; but the latter diſeaſe has no ſwelling, no vomiting, nor ſingultus; and it has ſome ſymptoms which the iſchuria has not, as a conſtant deſire to paſs urine, a pain in the end of the penis, a teneſmus, and often a diarrhoea. It has more ſimilitude to the aſcites, as both are attended with obſtructed urine, a ſwelling of the belly, and a fluctuation. But the iſchuria may be eaſily diſtinguiſhed from the aſcites, as, in the former, the ſwelling is of a round defined figure, and juſt above the os pubis, as the fluctuation is confined to that part; as the urine is often pale; and as there is pain in voiding it. So difficult has it hitherto to been diſtinguiſh this diſeaſe, that thus much, on the diagnoſtic marks, ſeemed neceſſary.

This diſeaſe, in the latter of the two patients whoſe caſes are here related, appeared to ariſe from a ſcirrhous and ſwelled bladder. For, 1. When the catheter

was introduced, a conſiderable reſiſtance was felt at the neck of the bladder, and it ſeemed to the introducer to paſs around ſome tumor. 2. When the finger was introduced into the rectum, a hard tumor was diſcovered. 3. The diſſections mentioned by other authors, and that of our former patient, ſhow this to be the general cauſe. It may be thought that the whole bladder could not be ſcirrhous, elſe it would not have ſtretched ſo much. But it may be ſcirrhous and dilated alſo; though, I believe, a ſcirrhous oftener contracts hollow muſcles, as in the ſcirrhus of the ſtomach and inteſtines.

Although the hiccup and vomiting abated much after the urine was drawn off, and prevailed moſt when that operation was not performed; yet theſe ſymptoms are, in part, to be attributed to the topical affection of the bladder; as they continued, in ſome degree, after the urine was drawn off; and during theſe nights, in which the bladder was fully evacuated, ſo they could not altogether ariſe from a defect of the ſecretion, or from an abſorption of acrid urine. The paleneſs of the urine firſt

drawn

drawn off, which muſt have been in the bladder for ſome time, was remarkable. It was found equally pale in the former patient. Was this owing to a general ſpaſm of the ſecretory organs of the kidnies? or did Nature attempt to ſecrete the ſalts and oils by other organs? I am apt to believe the latter cauſe, as both this and the former patient had conſtantly a ſtrong lixivial ſmell.

The latter caſe, whether we conſidered the ſymptoms or cauſe of the diſeaſe promiſed no ſucceſsful iſſue. As many of the complaints aroſe, immediately, from a ſtoppage of urine, its evacuation by art, and a repetition of the operation twice a day afterwards, became neceſſary. All his complaints, vomiting, hiccup, &c. almoſt went off, except the dyſuria, which conſtitutes the diſeaſe.

The hot bath was ordered every day, to relax the ſcirrhous bladder, to open the ſkin, and to aſſiſt the following courſe. He got an opiate every night, as he ſlept ill; and it had the deſired effect of procuring reſt. No better remedy occurred, for the obſtruction, than a mercurial courſe;

and

and no better preparation of mercury than Plenck's ſolution, as the gum Arabic would cover the urinary paſſages. He was ordered half an ounce of that preparation, which contains ſix grains of mercury, twice a day. I intended that it ſhould have affected his mouth a little, which this preparation does, moderately, and which effect was produced. He took it for about twenty days. His body was, during that time bound, ſo that we were often obliged to give him the caſtor oil. Mercurial pills were afterwards tried; but they ſeemed to purge too much. Mercury was applied to the part affected, by ſeating him over the vapour of native cinnabar thrown on coals. But he found no advantage from theſe mercurials; ſo they were given up.

Lime-water, to the quantity of a bottle in the day, was next given. This, as an aperient, might open the obſtruction, and, as a cicatrizer, might heal any ulcers there. A few days afterwards, he began to take the bark. This plan ſeemed to agree with him, as his fever diſappeared, as his hiccup left him, and as he had no complaint but

that

that of voiding his urine inſenſibly, which always muſt attend a ſcirrhous ſtate of the bladder.

ISCHURIA URETHRALIS.

This diſeaſe ſeldom occurs in the clinical ward.

Hist. IV. March 6, 1778. David Wardlaw, 60, had a gonorrhoea about ſix months ago, which was ſtopt by medicines, in two or or three days. He felt, ſoon afterwards, a difficulty in paſſing his urine, which has gradually increaſed ſince that time. About ten days ago, it was attended with pains in the glans and ardor urinae. He has paſſed little, for four days, and only two gills the laſt day, with very great difficulty. The hypogaſtric region is ſwelled and pained. On introducing the catheter, three pints of urine were brought off, by which the pain and ſwelling were removed. The catheter required force to make it paſs the neck of the bladder, and blood followed the operation. When the finger was introduced into the rectum, there was found a hard tumor about

about the neck and bladder. 9th, His urine was paſſed in ſmall quantity. 10th, The right teſticle began to ſwell, and continued ſo for ſome days. 13th, The catheter entered eaſier, and the tumor was found to be leſs by the finger. 16th, His urine paſſed eaſily. But the ſwelling of the teſticle continued for three weeks.

We are ſure that the cauſe was lodged in the urethra, and in the beginning of it next the bladder, as the finger found the tumor there, and as the catheter was obſtructed in its paſſage at that place. But, whether it was a ſwelling of the verumontanum, proſtate glands, veſiculae ſeminales, &c. was uncertain. The affection of the teſticle ſeems to point out the laſt. Theſe parts are often affected by tumor and ſcirrhus, after a gonorrhoea, eſpecially if ſuddenly ſtopped. The ſwelling of the teſticle is a common effect of ſuch tumors, and of the gonorrhoea, and is not occaſioned by the abſorption of any venereal matter into the blood, and fixing on the teſticle, nor to any paſſing down the vas deferens; but, 1. To a ſtoppage of the ſecreted ſemen, by the tumor preſſing on the end of the

the duct. 2. To an increaſe of the ſecretion, from an irritation on the extremity of the excretory canal. Hence the teſticle ſwells, from a preternatural quantity of ſemen being collected in it; and, in venereal caſes, that tumor is no proof of the blood being infected.

As he had been bled, as his pulſe did not appear ſtrong, and as he was old, bleeding was not ordered; but, as the original cauſe was venereal, he got the mercurial pills; and the mercurial ointment was rubbed on the part.

After the ſwelling of the teſticle appeared, it became the principal object, as the eaſier paſſage of the urine ſhowed that the urethral tumor was leſs; and I ordered fomentations, a poultice, and the repeated application of four leeches. Goulard's vegetable mineral water ſeemed not to do much good. As its operation appears to be merely topical, the teſticle was probably out of its reach. I have often ſeen the good effects of vomits of turpeth mineral, in reducing ſwellings of the teſticle. They are not uſed here, from a miſtaken notion of their being ſevere; but they never appeared

peared to operate more ſeverely than other vomits, or than could have been wiſhed. He was, therefore, ordered four grains of the turpeth mineral which vomited gently; and the ſwelling was leſſened. It was repeated, the ſecond day after this; and it did not vomit, but it purged him thrice. I was ſurpriſed that no ſpitting followed, which generally ſucceeds the ſecond exhibition of this medicine.

When an inflammation of his eyes appeared, bleeding ſeemed neceſſary, though his pulſe, even then, did not indicate it. He was bled, and his blood appeared ſizy. This ſtate of the blood, and his being eaſier after the operation, encouraged us to repeat it twice; but in this laſt bleeding the blood had no ſize. I am every day more and more convinced of the utility of bleeding, even though the pulſe appears not ſtrong, in all topical venereal inflammations, as phimoſis, paraphimoſis, &c. although they have an oedematous appearance, which is too apt to prevent our doing it.

He got a bottle a day of the decoction of mezerion, which produced a vertigo.

His teſticle, next day, began to decreaſe, and was well on the fifth day. Whether this effect was owing to the previous bleedings, or in part to the decoction, can hardly be determined. I am apt to attribute a ſhare of the cure to the mezerion, from its general deobſtruent effects, and from its ſucceſs in the caſe of a ſwelled teſticle, as will be afterwards mentioned when we come to treat of the effects of this medicine.

SECT XVI.

Diabetes

There is no diſeaſe that has been ſo little improved in its hiſtory, theory, or cure, as the diabetes. Aretaeus has given the beſt deſcription of it. All attempts to explain its pathology have hitherto been fruitleſs; and it is yet, in its advanced ſtate, incurable. This muſt, in ſome meaſure, be attributed to the rarity of the diſeaſe. Galen ſays, that he ſaw it only twice. Though at preſent uncommon, it however occurs perhaps oftener than among the antients.

This

This Mead attributes to the uſe of warm water among the antients, after drinking hard; whereas the moderns quench their thirſt with cold water, which, in that ſtate, becomes more diuretic. The immoderate uſe of ſpirits, which were partly unknown to the antients, may perhaps afford a better reaſon for the more frequent appearance of this diſeaſe in modern than in antient times. An accurate attention to two caſes, which lately occurred to me, may throw ſome light on this ſingular diſeaſe, eſpecially as one of theſe proved mortal, and was attended with a diſſection, of which we have but few recorded.

Sauvages has properly placed this diſeaſe in the claſs of Fluxus; but improperly in the order of Serifluxus, as the urine has none of the marks of ſerum. Others have arranged it among the ſpaſms. I do not think their definitions have ſufficiently marked its diſtinguiſhing outlines. It may be defined, "Urina aucta & ſub-"dulcis; ſitis perpetua; cutis arida & ple-"rumque ſquamoſa."

It has been diſtinguiſhed by Etmuller into the Vera and Notha; Vera, where the drink

drink paſſes unchanged, as when red wine comes off red; Notha, when it ariſes from a colliquation of the fluids. That red wine paſſes unchanged, appears improbable; and the urine not coagulating, is a ſufficient proof that there is no colliquation of the fluids. It may be more properly diſtinguiſhed into the Aquoſa, when the urine is of a diaphanous watery colour, as in the two following patients; and into the Lactea, when it is of a milky whiteneſs. This latter ſpecies has occurred to me. It muſt proceed from the chyle's paſſing along with the urine; and ſeems only to be greater in degree, where the attenuated oils of the chyle are allowed to paſs; while, in the former ſpecies, the ſalts alone are ſecreted with the urine.

Let us firſt take a view of the ſymptoms and circumſtances of this diſeaſe, as theſe muſt ſerve for the baſis of our after reaſoning. The attention which we paid to both caſes will enable us to give a more accurate account of this diſeaſe, than has, perhaps, yet been done. As in both patients, the ſymptoms were ſimilar, we ſhall conſider them together.

"Alexander Arthur, admitted Feb. 13, 1775, had laboured under the diſeaſe for three years. James Murray, admitted March 10, 1778, had had it for four years." Thus, contrary to Aretaeus's opinion, it appears to be one of the moſt chronic diſtempers which we know, as it laſted ſo long in both patients. If many of the nutrimental particles paſs off by urine, yet their great appetite helps to replace this waſte.

"Arthur was forty-two years of age; Murray was twenty." It ſeems, therefore, not peculiar to any age.

"It came on, in both, with increaſed thirſt, and increaſed quantity of urine; both of which ſymptoms appeared together. Both of them felt great debility. Murray, at firſt, had ſome flatulency, which went off."

"Arthur's thirſt was immoderate, and unquenchable. He drank between ten and twelve Engliſh pints a day, without ſatiſfying his thirſt. The quantity which he drank was greater, during any two hours of the forenoon, after breakfaſt, than during the ſame time, equi-diſtant from dinner,

ner, in the afternoon. Murray drank about four pints a day, and more in the afternoon than the forenoon."

It is the great quantity of urine which has hitherto characteriſed this diſeaſe. "Arthur paſſed from 12 to 15 pints of urine during 24 hours. When he drank 10 pints, he paſſed 12; when he drank 12 pints, he paſſed 14 or 15; ſo that his urine exceeded his drink generally by 2 pints. He paſſed more proportionally in the evening than in the forenoon. March 10th, between 4 and 6 P. M. he paſſed 4 pints. 11th, Between 10 and 12, A. M. he paſſed 3 pints. Murray, on the 13th of March, drank, during 24 hours, 4 pints; but his urine meaſured 12 pints. 16th, He drank 4 pints, and paſſed between 11 and 12 pints of urine. 17th, From 12 at noon to 12 at night, he drank 4 pints, and paſſed 8. From that time to 12 o'clock next day, he drank none, and paſſed 4 pints. 20th, From 12 at noon to 12 at night, he drank 2 pints, and paſſed 6; from that to 12 next day, he drank 1 pint, and paſſed 4. So that, when he drank 4, he paſſed 12 pints a day;

when he drank 3, he paſſed 10 pints. Hence his urine always exceeded his drink, by 8, or at leaſt 7 pints." Theſe quantities of urine, though quadruple of the uſual quantity in that ſeaſon of the year, are ſmall when compared with what ſome authors mention. Thus, in the caſe of the girl deſcribed by Cardanus, 36 pints were paſſed each day, when her body altogether weighed only 250 pounds, and her meat and drink only 7 pounds; and in that of the woman mentioned by Shenkius, where the urine paſſed, in a few days, was more than the weight of her own body. Beſides drink taken occaſionally, they get in the Infirmary much liquid food, as broth to dinner, and beer to breakfaſt and ſupper, which may amount to three pounds and a half in the day. The ſolid food, at an average, may be about three pounds and a quarter a day. This, if we allow the whole to paſs by the kidnies, nearly amounts to the exceſs of Murray's urine above his drink, but will not account for the ſurpriſing quantities recorded by the above authors. From the preceing experiments, it appears, that

more

more was always paſſed from 12 at noon to 12 at night, than during the other 12 hours.

But the quality of the urine is yet more ſingular, and it has been hitherto leſs obſerved. "Arthur's was of a pale whey colour, with little or no ſediment. This colour was owing, perhaps, to the greater quantity of ſaccharine matter in it. Murray's was of a pale ſtraw colour, and had no urinous ſmell." Authors mention oil on the ſurface of diabetic urine; but I could diſcover none on the urine of either of theſe two patients. The ſcum which is formed on the ſurface of urine, left in quiet to follow its ſpontaneous changes, has, perhaps, deceived them.

"The urine of both patients had an evident ſweet taſte." This the antients had obſerved, though ſome moderns have denied it. But none ever thought of diſcovering the cauſe of this taſte, till Dr. Dobſon analyſed the urine by evaporation and cryſtallization, and got, from each pint of urine, an ounce of a ſaccharine ſaline ſubſtance, which, when taſted, he could not diſtinguiſh from brown ſugar, except

by its leaving a ſenſation of coldneſs on the palate. "Arthur's urine, evaporated to an extract, by my friend Dr. Black, afforded one ounce and a half, from each pound, of a brown ſaccharine matter, which had a weak ſaltiſh taſte. Murray's urine treated in the ſame way, gave but one ounce, from each pound, of a ſubſtance reſembling coarſe brown ſugar, with a ſaccharine and urinous ſmell, and a ſweat and ſalt taſte." The quantity of ſaccharine matter in Arthur's urine is wonderful, as a pound of aſs-milk affords only half an ounce; and the ſame quantity of cows-milk affords only half of that quantity of ſugar. The ſalt taſte ſhows that it has the due proportion of the ammoniac and marine ſalt; but they could ſcarcely have been ſeparated from the ſaccharine by re-diſſolving and cryſtallizing.

"The urine of neither was coagulable by fire, or by the vitriolic acid." I find, ſince, that Dr. Dobſon had tried the ſame experiment with the ſame reſult. It, therefore, contains no coagulable lymph. In this it agrees with urine in a natural ſtate. Cottuni and Sarcone mention coa-

gulable urine in the dropſy; but, though often tried, I never yet diſcovered hydropic urine to have that property.

"Half a pint of yeſt was mixed with 24 pints of Arthur's urine. It ſoon began to ferment, and emit a vapour, like fermenting liquors. Next day it fermented ſtrongly. On the 3d, the fermentation ſeemed to be finiſhed, and it had now loſt all ſweetneſs, and taſted like ſmall beer. Murray's, treated in the ſame way, fermented into tolerable ſmall beer." This ſhows the contents of the urine to be, moſtly of a vegetable nature, as no animal fluids are capable of the vinous fermentation.

I next tried the ſpontaneous changes of their urine. "On the 24th of March, ſix pints of Arthur's urine were put into a clean ſtone veſſel, and placed in the ſame room with himſelf. At the ſame time, the ſame quantity of the urine of a convaleſcent was placed near it, as a ſtandard. On the 6th of April the former was ſtill ſweet in taſte and ſmell, while the latter ſmelled like ſtale urine, and had for ſeveral days a thick mucilaginous ſkum on its

ſurface. On the 17th, the former had got a mucous cover, and a ſlight putrid ſmell and taſte; the latter was very putrid. So both were thrown out. On the 10th of April, about 20 pints of Murray's urine were put into a wooden veſſel, placed in a warm room. On the 20th, its ſurface was found covered with much ſkum, and many air bubbles, which ſhowed that it was in a ſtate of fermentation. It taſted acidulous, and like weak hard ſmall beer. So that it was under the vinous fermentation." Dr. Dobſon, too, found that diabetic urine turned vinous and acid before it corrupted. The ſeaſon, the ſtate of the weather, the veſſel, and the quantity, favoured the vinous fermentation of Murray's urine, more than of Arthur's, though there were more ſaccharine ſalts in the latter than in the former.

"The appetite in both was much greater than in good health. In Arthur it was voracious, and he felt a continual gnawing hunger. Murray's hunger was not ſo uneaſy." This helps to ſupport the body under its great waſte.

"Ar-

"Arthur's ſkin was always dry, eſpecially from the middle downwards. Murray's was always dry and ſcaly, eſpecially on the breaſt. None of theſe two patients ever ſweated."

It is not a matter of mere curioſity to fix the ſtate of the cutaneous exhalation and inhalation. This was attempted by weighing our patients, forenoon and afternoon, at nearly equal diſtances of time from dinner, and from ſupper. "March 7th, Murray, betwixt 4 and 6 P. M. loſt in weight, that is, perſpired three ounces and three drachms. On the 8th, between 10 and 12 A. M. he gained two ounces and a half; ſo that, inſtead of loſing by perſpiration, he abſorbed that quantity more than he perſpired. On the ſame day, between 3 and 6 P. M. he loſt three ounces. On the 9th, between 11 A. M. and 1 P. M. abſorption exceeded perſpiration by two ounces and a half; and on the ſame day, between 4 and 5 P. M. his perſpiration exceeded abſorption by four ounces." By theſe five experiments the perſpiration exceeds nearly by two ounces, at a medium, in an hour, the abſorption in the afternoon;

noon; but, in the forenoon, the contrary takes place, and the abſorption exceeds perſpiration by one ounce and a quarter in the hour.

We can now compare in Arthur the quantity of drink, urine, and perſpiration. In the forenoon he drinks more, and abſorbs more, but paſſes leſs urine. In the afternoon he drinks leſs; but perſpires more, and paſſes more urine. Hence the following concluſions ariſe: 1. That the increaſe of urine is not owing to the immediate ſtoppage of the perſpiration, as the quantity of urine is at that time leaſt. 2. That this increaſe does not ariſe from an immediate quantity of drink, as the urine is leaſt when the drink is moſt. 3. That the fluids are accumulated in the body in the forenoon; as then the drink and the abſorption are in greater, and the urine in leſs quantity. But, in the afternoon, the kidnies and ſkin are more open, while leſs drink is taken in; ſo that the body ſeems, then, to be in a progreſſive ſtate of depletion. This is contrary to the eſtabliſhed theory which ſuppoſes theſe evacuations to alternate. 4. As the urine

exceeds

exceeds the drink by 1, 2, or 3 pints a day, we may allow 2 at a medium. If we are to deduce this exceſs from abſorption, which never exceeded an ounce and a quarter in an hour, the whole 24 hours of an abſorption, equal to this, will not account for it; but we have diſcovered perſpiration, in the afternoon, to be almoſt double of abſorption.

The ſtate of Murray's cuticular diſcharge was as follows: "April 7th, from 11 A. M. to 1 P. M. he gained three ounces. From 5 to 7 P. M. abſorption was equal to perſpiration. On the 8th, from 11 A. M. to 1 P. M. he gained three ounces; and from 5 to 7 P. M. he loſt three ounces. 9th, Between 12 and 1 P. M. he loſt nine ounces; and in the evening, for the ſpace of an hour and a half, there was no gain or loſs. 10th, From 2 to 5 P. M. he loſt an ounce and a half. 13th, From 12 to 2 P. M. he gained three ounces and a half." From theſe experiments, there appears to be an ebb and a flow; but not at ſtated times, though, in general, abſorption took place in the forenoon, and perſpiration in the afternoon, as in the former patient. If,

to

to compenſate the 12 pints of urine, we take 4 pints of drink, and near 7 pounds of fluid and ſolid food at meals, we ſhall ſtill have above one pound remaining, for which, by the preceding experiments, we are not entitled to account from abſorption. There is no remaining ſource, but from the conſumption of the body.

Is the perſpiration or the ſweat, ſaccharine? I cannot anſwer that queſtion, as I had not attended to it. If it is not, the fault or primary cauſe muſt be in the kidnies alone.

"Arthur's blood was in a natural ſtate, and the ſerum had no preternatural ſweetneſs. Murray loſt two ounces of blood; the firſt ounce was taken into one cup, and the laſt into another. The former was natural; but the latter had a very thick inflammatory cruſt." I did not expect to find a ſizy cruſt in the blood, where the pulſe was rather weak, and almoſt natural as to ſtrength. "He loſt, again, on account of a ſtitch in his breaſt, five ounces of blood, with the ſame appearances, as before, in the firſt and laſt cup. The ſerum was ſaline and natural." One would have

have thought, conſidering what a quantity of ſaccharine matter we found in the urine, that the ſerum ſhould have contained as much of it, as to be diſcovered by the taſte. Hence, this ſaccharine matter muſt either be fabricated by the kidnies; or, if made by the digeſtive organs in the primae viae, it muſt paſs very quickly through the vaſcular ſyſtem.

"Arthur's pulſe was ſometimes at 75, and at other times at 90. Murray's ſometimes at 68, ſometimes at 80. During a few of the laſt days of his life, it was 130." In the caſe which I ſaw attended with milky urine, there was a conſtant hectic, which was not without danger. Thus, a hectic pulſe often attends this diſeaſe.

"They were both much emaciated, and complained, from the beginning of their diſeaſe, of great debility. Both of them ſlept well. They never had any acid taſte in their mouth, or ſwelled belly, as Dr. Dobſon's patient had. Arthur had complained, for a year, of coldneſs of his lower extremities. Murray complained much of a pain in his left foot; and his legs,

legs and ancles were ſometimes ſlightly ſwelled. He had beſides loſt ſixteen of his teeth ſince his diſeaſe began; and ſeveral of thoſe remaining were looſe, and the alveolar proceſſes were waſted."

"Arthur was two months and an half in the clinical ward; at the end of which he was diſmiſſed in the ſame ſtate he came in. Murray continued under my care from the 10th of March to the 20th of April, at which time his pulſe became 130, his breathing difficult, his drought increaſed, and he had a ſtitch below the right mamma, which was aggravated on coughing. He loſt five ounces of blood, had a bliſter applied, was ordered wine, &c. but he died on the night of the 22d. On examining the kidnies, the left was larger than natural, and its ſubſtance ſofter. There was no uncommon appearance in the right kidney, except a greater degree of ſoftneſs. The ſubſtance of both kidnies had a ſour odour. The ureters were of a natural ſize. The coats of the bladder were ſtronger than common; and no lacteals could be obſerved about the neck of it, though ſome have ſuſpected that much

much of the fluid is depoſited in the bladder, by a retrograde motion in the lymphatics. All the glands of the meſentery and meſocolon were enlarged, of a pale colour, and of a firm conſiſtence. The vaſcular ſyſtem of the meſentery was rather large. The liver was natural, and had ſome firm adheſions to the colon. The large inteſtines were much loaded with hard faeces. The reſt of the abdominal and thoracic viſcera were natural." If the urine in the kidnies had been taſted, it would have aſcertained the courſe, about which there is ſome doubt, of the ſaccharine ſalt. But the peculiar ſour odour ſhows, that the ſaccharine matter comes from the kidnies, and becomes ſour, by fermentation, after death.

The kidnies were afterwards ſent to Dr. Monro, for further examination; and I received the following letter from him: "The kidnies of your patient were unluckily cut open before I received them, which put it out of my power to examine them properly, by injecting their veſſels. I regretted this the more, becauſe I had, long ago, found it poſſible to make an injection,

jection, coloured with vermilion, paſs from the renal artery into the uriniferous tubes, when there had been no previous diſeaſe of the kidney. Both kidnies ſeemed to be of a large ſize, were of a remarkably pale colour, and felt rather ſofter than common. No other difference in the texture of the veſſels, or ſolid parts, could be diſtinguiſhed by the naked eye or with glaſſes. The ſmell of both kidnies was certainly different from what I had ever obſerved, being in ſome degree ſour, as well as putrid."

"Arthur, a maſon, aſſigned no cauſe for his diſeaſe. But Murray, a weaver, imputed his to cold and dampneſs, to which, from his buſineſs, he was expoſed." That employment affords the clinical ward a very great number of patients, in all the various diſeaſes of debility. Authors have obſerved, 1. That the diabetes often follows acute diſeaſes, which debilitate the whole body and kidnies. Aretaeus is of this opinion. Sydenham ſaid, that it followed intermittents, eſpecially if much venaeſection had been uſed. 2. That acrid purgatives induced it. Sydenham obſerved

it

it to ariſe from ſevere purging in intermittents. I knew a diabetes of the chylous ſpecies brought on by too frequent doſes of jalap and calomel. 3. That it ariſes from a too frequent uſe of diuretics. Many ſuch are mentioned by authors, as ſperma ranarum, muria foeniculi marini, ſuccus betalae, cyder, and Rheniſh wine. Willis mentions a diabetes, from the uſe of Rheniſh wine for common drink, which ended fatally in twenty days. Yet I do not remember that any of the ſoldiers were ſeized with it, on the banks of the Rhine, in the march to Frankfort, in the year 1743, though they drank, as ſmall beer, the moſt acid and weak ſort of it. A gentleman, after drinking Dunſe Spaw too plentifully, in cold weather, and in its vapid ſtate, was ſoon ſeized with a diabetes. It was attended by a general laxity of all the urinary paſſages; as a gleet, which had been ſtopped for ſix years, appeared along with it. 4. That the bite of the ſerpent Dipſis occaſions diabetes, and violent thirſt. Aretaeus aſſerts this; yet it ſeems doubtful, as he adds, that ſome of thoſe infected did not paſs any

urine, and as Lucan, who accurately mentions the other ſymptoms which attend its poiſon, ſays nothing of this.

As this diſeaſe appears ſo ſingular, it is not to be wondered, that there are a variety of opinions about its cauſe. Let us take a ſhort view of theſe, to ſee if they agree with the phaenomena which we have diſcovered, or give riſe to any method of cure.

The opinion of Galen, of Aretaeus, and of Willis, ſcarcely merits our ſerious conſideration. Mead, in his treatiſe on Poiſons, makes it an affection of the liver, and not of the kidnies. He ſays that, from too much watery drink, the ſalts of the bile are not able to keep the oils diſſolved; ſo that the watery part runs off by the kidnies, and the more oily remains in the liver, and produces a ſteatomatous collection; that the ſweetneſs of the urine ariſes from the bile, as the diſtilled water of the bile is ſweet; and that the urine at laſt turns bitter. But, it is objected to this opinion, that, 1. The urine in Murray was not bitter towards the end of his diſeaſe. 2. There was no obſtruction of the

liver

liver obſerved after his death; nor is it found in other diſſections. 3. No oil was ſeen on the ſurface of the urine of our patients.

Some attribute it to ſpaſms of the ſecretory organs, and place it among ſpaſmodic diſeaſes. This opinion may be ſupported by the following arguments. 1. All ſtimuli on the ſecretory organs and ducts increaſe the ſecretion. 2. In hyſteria, a pure ſpaſmodic diſeaſe, an increaſed quantity of urine is a leading ſymptom. 3. Willis obſerved thoſe patients ſubject to ſpaſms and cramps. It may be objected, however, to this opinion, that, 1. Spaſms and cramps are not obſerved by others, and none were diſcovered in our patients. 2. Antiſpaſmodics, as opium, &c. do not alleviate the ſymptoms. 3. There is no drought in pure ſpaſmodic diſeaſes, but much in this. 4. This opinion does not account for the ſaccharine, aceſcent, and fermentable urine. In the hyſteria, the urine has not thoſe qualities, which ſeem neceſſary to conſtitute a diabetes.

Others attribute it to the perſpiration being diminiſhed, or the inhalation increaſed,

creaſed, as they cannot in any other way account for the quantity of urine ſo much ſurpaſſing the drink. But, 1. This does not account for the particular qualities of the urine. 2. Sudorifics and diaphoretics are not attended with any good effects in the cure. 3. In both of the preſent caſes, eſpecially in Arthur, perſpiration and urine were increaſed at the ſame time. 4. We found, that the greateſt abſorption fell much ſhort of the greateſt perſpiration, during the ſame time. So that we may ſafely aſſert, from experiment, that perſpiration, at leaſt, balanced abſorption, during the whole day.

It has been generally thought to ariſe from laxity of the ſecretory organs of the kidnies; and for the following reaſons: 1. Diuretics, mineral waters, &c. open the paſſages too much, and bring on a paralytic ſtate. 2. The analogy to other increaſed ſecretions, from laxity, as ſweating from too relaxed a ſkin, makes this probable. 3. The cure, by ſtimulants, incraſſants, aſtringents, corroborants, &c. ſhow that laxity is the cauſe. 4. External conſtriction, by a belt, is of uſe in curing this diſeaſe.

5. In-

5. Inſpection of the body confirms it, as the kidnies are found lax. Petrus Pawus * ſays, "Filia diabete laborabit, &c. invei-"nit renes ſolito flaccidiores." Morgagni † has a ſimilar caſe. In our patient, the ſame was diſcovered. To this opinion, it may be objected, 1. That too much cold water may bring on general, as well as topical laxity, 2. That tonics, &c. cure general, as well as topical weakneſs. 3. That Morgagni has three other caſes, where the kidnies were lax; but no diabetes ſubſiſted. 4. That if it depended on the kidnies alone, the diſeaſe would happen oftener, from inflammations, calculi, &c. affecting them. 5. That no ſtate of the kidnies, alone, can produce ſaccharine matter.

The ſecretory veſſels of the kidnies may be ſuppoſed ſo altered, as to produce theſe ſymptoms. For, 1. The ſecretion depends on the ſtate of the ſecretory organ; ſo the former muſt alter with the latter. 2. No ſaccharine matter is diſcovered in the ſerum or ſweat. 3. There is three times

* Vid. Obſervat. Anatom. 2. † Vid. Morgagni Epiſt. 42.

more of ſaccharine ſalt in diabetic urine than in milk, from which alone it is ſuppoſed to ariſe. To theſe arguments, it may be objected, 1. That, in moſt ſecretions, the ſecreted matter, as milk, ſweat and urine, is allowed to have exiſted in the veſſels; ſo, it is probable, that it does in the reſt. 2. That, to ſuppoſe the kidnies capable of forming ſuch a quantity of ſaccharine matter, without direct proof, cannot be credited, eſpecially as ſuch a ſalt enters from the primae viae. 3. That the quantity of ſaccharine matter in the chyle is not yet exactly aſcertained.

Were I to give a theory, to explain the nature and ſymptoms of this wonderful diſeaſe, I would ſay, that it ariſes from a defect of the animal or aſſimilatory proceſs, by which the aliment is converted into the nature of our body. I have long looked on the exceſs or defect of this proceſs, as the ſource of many diſorders. All putrid diſeaſes, the ſcurvy, &c. ſeem to be owing to its exceſs; acidity of the ſtomach, &c. to its defect. Among the latter the diabetes may be arranged. For, 1. The remote cauſes ſhew it. It ariſes from what debi-

debilitates the body, as moiſture, preceding diſeaſes, great evacuations, &c. by which it becomes incapable to aſſimilate the food. So Sydenham thought, "Aſſimulandis "ſuccis protinus impar eſt." 2. The white chylous matter, which is often ſecreted with the urine, ſhows, that the vegetable part of the chyle is not aſſimilated. The dilatation of the urinary excretories cannot, alone, account for this, as the ſerous part of the fluids would then eſcape too, which does not happen. 3. Sugar is found in diabetic urine. Sweet chyle is the firſt product of the ſtomachic and inteſtinal digeſtion; as chyle, in the thoracic duct, and milk, which is a ſpeedy ſecretion of it, contain much ſaccharine matter. This is changed, in ſome hours, by the animal proceſs, into an ammoniacal ſalt, which is that found in all the excretions. But the ſaccharine ſalt, ſtill remaining in diabetic urine, which is the moſt perfectly animalized fluid, ſhows that there is great defect in the animal proceſs. 4. Urine, being of a ſeptic nature, runs faſt into putreſcency. But the diabetic urine turns acidulous; and with, and often without yeſt, undergoes the

vinous fermentation. Theſe peculiarities ſhow its vegetable nature; as vegetable juices, alone, are capable of the vinous and acetous fermentations. It likewiſe ſhows, that it is the ſaline parts alone of bodies that ferment; for the fire muſt have coagulated the mucilaginous particles, had there been any in the diabetic urine.

Theſe vegetable ſalts ſhow a defect in the animal proceſs. Theſe arguments appear more convincing than any of the former. But it may be objected to them, 1. That animal food ſhould cure it, which it did not. 2. That ſeptics, which brought on putrid eructations, made no change. 3. That the proportion of ſaccharine matter is much greater in their urine than in milk. But milk has not, perhaps, the whole ſaccharine ſalts of the chyle.

If the theory alone of this diſeaſe were defective, it would be a matter of leſs conſequence. But, from what we are to relate, the cure is fully as imperfect. All thoſe who have ſeen the diſeaſe, agree in pronouncing it to be difficult of cure, eſpecially if the patient is old, if it aroſe from habitual drinking, or if it has been

of

of long ſtanding. As with theſe two patients, before I ſaw them, and afterwards, many medicines were tried, I ſhall divide them into ſeven claſſes, ſudorifics, antiſpaſmodics, ſtimulants, aſtringents, tonics, incraſſants, and ſeptics.

1. As many are of opinion that it ariſes from a defect of perſpiration, it was proper to try ſuch medicines as increaſed that diſcharge. Beſides opening the ſkin, they would make a new determination from the kidnies to the ſurface. Hence Arthur, before he came into the clinical ward, had taken a ſcruple of Dover's powder. It ſweated him, but made no alteration on the diſeaſe. Murray had gotten it too; but without ſucceſs. Arthur had likewiſe been tried with the hot bath, without effect. So that increaſing the excretion of the ſkin does not diminiſh that by the kidnies, although both theſe excretions are, in general, ſo ſimilar, and ſo often compenſate the defect of each other.

2. Antiſpaſmodics were naturally thought of, as the diſeaſe has been attributed to ſpaſm. A bliſter had been applied to Arthur's loins, which, from its ſtimulus and drain,

drain, is a powerful antiſpaſmodic; but without any good effect. He had gotten a vomit of ipecacuanha, without ſucceſs. He had taken ten grains of the mercurial pill, morning and evening, till his mouth was affected; but they did no good. With this view, I gave him opium, to the quantity of three grains a day. It made him ſleepy, but did not diminiſh his urine. Murray got bark, without effect. I gave him a drachm of aſſafoetida in the day; but it took away his appetite, was attended with a feveriſh ſtate, and was at laſt given up, as diſagreeable to him. It ſeemed rather to hurt him.

3. As this diſeaſe was thought to ariſe from laxity, and a paralytic ſtate of the tubuli uriniferi, ſtimulants, to excite their action, have been recommended. In this view, Dr. Briſbane conſidered the diſeaſe, when he propoſed the tincture of cantharides as a cure. This Arthur had taken from the quantity of fifteen, to that of forty-five drops, every night at bed-time, without effect; which I thought a ſufficient trial, ſo did not repeat it. Murray had taken from fifteen to eighteen drops a day.

By

By mixing ſix drachms of the mucilage of gum Arabic, it may be given to the quantity of fifty drops twice a day. So he was brought, by degrees, to take that quantity; but without any advantage. It griped him; but produced no aphrodiſiac effect. Both theſe caſes make the antidiabetic powers of this medicine very doubtful. It is, indeed, difficult to conjecture how a diuretic can cure the exceſs of this evacuation. With the ſame view, Arthur had taken three grains of the blue vitriol a day. It excited a nauſea; but had no good effect.

4. Aſtringents are given in all increaſed evacutions; hence they are uſed in this diſeaſe. They brace the veſſels, and make the nerves leſs ſenſible. Arthur had taken from ten to twenty grains of alum, along with five grains of the terra Japonica every two hours; and afterwards the ſerum aluminoſum, ſo much recommended by Mead, in the quantity of four ounces for each doſe. But theſe did no good. He had taken lime-water without any better ſucceſs. As little, in this way, was left for me, I tried one of the ſtrongeſt aſtringents,

gum

gum kino, to the quantity of fifteen grains; and that its operation might be ſtronger, by opening a new drain, three grains of the ſalt of hartſhorn were added to each doſe. He generally ſweated with this during the night; but it had no effect in the cure of the diſeaſe. I ordered a tea-ſpoonful of the tinctura antipthiſica twice a day. In two days, the quantity of his urine was only eight pints a day. But its good effects did not continue. He drank for ſeveral days, hard water, which is ſimilar to Briſtol water, ſo much uſed in the diabetes, as both contain an imperfect ſalt of an aſtringent nature; but it did no good. Murray had taken four ounces of the ferum aluminoſum, twice a day; and afterwards alum in ſubſtance. He got ten grains of the gum kino, four times a day; then half a drachm, and afterwards a drachm of alum and dragon's blood, in equal parts, liquified, four times a day; but all without effect.

5. Tonics are more powerful corroborants than aſtringents are. Many of thoſe are aſtringent, as bark, &c. But they have, beſides, a ſtimulating power, by which

which they rouſe the nervous ſyſtem, excite the circulation, and are powerful in all caſes of debility. They were amongſt the firſt remedies given to Arthur, as they had not before been tried. I gave him half a drachm of the bark, four times a day, for ten days. It made him more thirſty; but had no good effect. As cold is a good tonic, a fall of cold water was applied to the region of his kidnies. It produced a heat there, which laſted a quarter of an hour. This was continued for five days. He then uſed the general cold bath; but all without effect. A bandage, which corrects the laxity of the body, and diminiſhes the irritability, has been recommended to be applied to the loins. But it did no good. Strengthening plaſters did no ſervice. Murray got Hartfield Spaw, bark, and a bandage, without effect.

6. Incraſſants and demulcents are uſed to ſtop all thin ſecretions, and oppoſe acrimony. Hence Arthur was ordered a decoction of icthyocola and gum Arabic, with mucilaginous food, as ſago, and thirty oyſters a day. Theſe diminiſhed the urine to nine pints a day. But, as it did not

decreaſe any more for ſeventeen days, during which this courſe was continued, it was given up. Murray got the ſame medicines, with forty oyſters a day; but without any effect.

7. As the urine appeared too little animalized, I endeavoured to promote the animal proceſs by ſeptics. It is the firſt time that I, or perhaps any other, ever purſued that intention. At firſt a drachm, and then two drachms of crabs eyes were therefore given, four times a day, along with a tea-ſpoonful of the ſpirit of hartshorn, in three ounces of water. His body ſoon became bound, he turned thirſty, and his eructations were putrid, which ſhowed that the medicines had anſwered their intention, at leaſt in the primae viae. But the urine was not altered in quality or quantity. The ſame plan was purſued with Murray, and with the ſame effects; and beſides, he felt a loſs of appetite, and a pain of his ſtomach.

Thus theſe two patients exhauſted all that experience had ever recommended, and almoſt all that theory could ſuggeſt. Yet, in both caſes, the diſeaſe reſiſted all the means

means of cure uſed. When we are convinced of this, theſe hiſtories are not without their advantage; as, by ſhowing that the field is quite open, we may hereafter hope for ſome more ſucceſsful attempt.

SECT. XVII.

Experiments upon ſome remedies uſed in the Hydrops.

There is no diſeaſe which affords hoſpitals more numerous patients than the different ſpecies of Hydrops, and none of which fewer are cured. The incurable nature of hydropic affections, was of old remarked by Aretaeus: "Ab ipſo pauci "liberantur, idque felicitate, ac deorum "potius quam artis auxilio." Modern phyſicians were they as honeſt, could ſay little more. All attempts, therefore, to gain ground in the cure of ſuch diſeaſes, are worthy of attention. I ſhall, therefore, relate the ſucceſsful and unſucceſsful experiments which have been made,

CRE-

CREMOR TARTARI.

Vincenti Manghini * firſt propoſed cream of tartar, as a cure for the aſcites and anaſarca and ſupported his propoſal with ſixteen caſes, in moſt of which it had been ſerviceable. He gave from four to ſix drachms a day. Often twenty, ſometimes forty days elapſed, before it had any viſible effect in increaſing either the ſtools or urine; but, afterwards, the body became looſe, and the urine thick, bilious, and ſabulous. Many of the patients had ſwellings in the liver and ſpleen, which were likewiſe cured. From theſe caſes, this medicine appeared to be a powerful diuretic, and the patients were reduced to great leanneſs; but they ſoon recovered, after its employment was given up. The patients, indeed, were all young; and the diſeaſe was generally but of ſome months ſtanding. Some other Italian phyſicians, after this, had mentioned its general ſucceſs, but without fixing it on the foundation of experiment, as Manghini had done, and

* Vid. Commentar. Bonon. tom. iv.

as the ſubject merited. The facts appeared to me authentic, ſtrong, and meriting our utmoſt attention. Relying on theſe, it was firſt exhibited here in the year 1769, when I gave a courſe of ſummer clinical lectures; and it was at that time ſucceſsful in the cure of ſome hydropic diſeaſes. During that ſummer, therefore, and the following, its value was further aſcertained. It has, ſince that time, been much made uſe of here, and over Scotland; but is, as yet, little uſed, as I am told, in the ſouthern part of the iſland, though each winter ſtudents of medicine have an opportunity of learning and ſeeing its good effects. So ſlow is the progreſs of approved medicines. Manghini has the whole merit of the diſcovery, and of introducing a new and valuable medicine. I ſhall give the facts, ſucceſsful and unſucceſsful, that every one, where this medicine is not ſo much uſed as here, may be at liberty to form his own concluſions.

EXPER. I. May 23, 1769. Alexander M'Intoſh, 21, has had, for two months, a quotidian, for which he had taken vomits, phyſic, and the bark. His laſt fit was on

the 20th. His legs had been ſwelled for a fortnight, and his belly for ſome days. He feels a pain and ſwelling about the liver, with head-ach, drought, cold and hot fits, cough, and pain of his breaſt. Pulſe 94. ℞ Crem. tart. unc. ſs. diſſ. in aq. font. unc. x. cap. quotidie ſummo mane. June 1ſt, his abdomen is leſs ſwelled. His body is more regular; but it is not looſe. His urine is increaſed. Rep. crem. tart. drach. vi. diſſ. in aq. lib. i. cap. u. a. 21ſt, His legs are much fallen. His abdomen is of the natural ſize. The pain and ſwelling of his ſide are gone. He makes about four pounds of thick urine a day; and his body is more open. July 7th, He was diſmiſſed cured, but much leaner. This patient was cured in ſix weeks. The medicine operated as a diuretic, but not as a purgative. He had taken about twenty-two ounces of the cream of tartar.

EXPER. II. July 25. Chriſtian Sutherland, 20, has been affected with anaſarcous ſwellings of her legs for two years. Theſe have much increaſed ſince a fever, which ſhe had a few months ago. She has

felt a conſtant pain, eſpecially on preſſure, in the region of the liver. There is no ſwelling of her belly; nor is there any diminution in the quantity of her urine. Her menſes are regular. Pulſe 100. She began with half an ounce of the oxymel of ſquills in the day, which was increaſed to an ounce and a half. It operated powerfully by urine; but the ſwellings did not diminiſh. Auguſt 2d, ſhe began to take half an ounce of the cream of tartar, and this quantity was ſoon increaſed to ſix drachms, diſſolved, each day. She ſometimes threw it up; and it neither increaſed her urine, nor affected her body. 26th, Her left leg is fallen an inch; and her right, half an inch; and they do not pit on preſſure. The pain of her ſide returned, for which ſhe was bled. Sept. 9th, ſhe was diſmiſſed cured. Thus, anaſarcous legs, of two years ſtanding, were cured in forty days, without any ſenſible evacuation; and the cure ſo confirmed, that ſhe ſuffered no relapſe from bleeding.

EXPER. III. Aug. 23. John Hamilton, 28, on leaving Kent, was ſeized with a quotidian, which continued for two

months, and then ſtopped. But there remained, in the left ſide of the abdomen, a pain, and great hardneſs, which ſeemed to be in the omentum. His legs had ſwelled, and continued ſo for ſeven weeks. On the anaſarcous ſwellings going off, the ſize of his belly increaſed; it has remained in that ſtate ever ſince, and is about ſix inches larger than its natural ſize. He complained of head-ach, and he had a frequent bleeding of his noſe, for which he had been bled. Pulſe 92. There was no diminution in the quantity of his urine. He began with half an ounce of the cream of tartar diſſolved; and as it had no viſible effect on his urine or body, it was increaſed to ſix drachms. On the 29th, he got an ounce. Sept. 7th, belly fallen two inches. The hardneſs on the left ſide is leſs, and is moveable. His body is generally open, and his urine is ſomewhat increaſed in quantity. 15th, His belly hath fallen three inches, and the hardneſs is leſs. He paſſes more urine, but he has little purging. My attendance was finiſhed before the cure was quite complete. Here the dropſy was owing to an obſtruction in the

the omentum and meſentery; and the former decreaſed, as the latter diminiſhed, without much increaſe of urine, or almoſt any purging, though he got an ounce of this medicine a day.

EXPER. IV. Aug. 26. To ſee how far its powers extended, it was tried in a caſe which to me ſeemed deſperate. Agnus Johnſtone, 40, after being overheated, and cooling ſuddenly, about a year ago, was ſeized with difficult breathing, and alternate cold and hot fits. His ſkin, eyes, and urine ſoon turned yellow. After taking many vomits, and much phyſic, his belly began to ſwell, about ſeven weeks ago, and his urine diminiſhed in quantity. He complains of a pain in the left ſide of the hypochondrium, and he cannot lie on it. An evident fluctuation is to be felt in his abdomen. His reſpiration is difficult. His body is looſe. Pulſe 88. Notwithſtanding the looſeneſs, he was ordered ſix drachms of the cream of tartar in the day. 31ſt, Purging diminiſhed, and pain of the ſide, breathing, and appetite better; ſo the medicine was increaſed to an ounce. Sept. 8th, he was

ſeized with looſeneſs yeſterday, and he paſſed much green matter. His belly has fallen two inches. His breathing is relieved; and he can now lie eaſier on the left ſide. 14th, His belly hath ſwelled again, and it is tenſe. The pain in the left ſide is quite gone; but he felt a pain below the ſhort ribs of the right. His body is rather bound. I left him in the hoſpital. He was tapped; but his belly ſoon ſwelled again. The former plan was continued, and the quantity of cream of tartar was increaſed to an ounce and an half a day. Under this plan, the ſwelling of his belly gradually diſappeared; and he was ſeemingly well. But, on November 8th, having met with ſome vexation, he unexpectedly died. When opened, the external ſurface of the brain was tinged yellow, but it was not of ſo deep a colour as the ſkin was. On the external convex ſurface of the right lobe of the liver, a large cyſt was found, with its ſides as hard as a bone, containing a pint of clear ſerous water, in which ſwam many hydatides. The whole liver was large and hard; the gall-bladder was quite empty, but the

ducts

ducts were not obliterated. No fluid was found in the abdomen or thorax. This case, though mortal, yet is strong in favour of the cream of tartar, as it removed the dropsy, which was the effect, though it could not remove the obstruction of the liver, which was the cause of the disease.

Exper. V. July 10, 1770. George Brown, 26, affected, for about two years, with the lues venerea, which had destroyed the palate and septum narium, had produced ulcers about the anus and internal canthus of one eye, &c. About four weeks before he came in, his belly, scrotum, and ancles, began to swell. He had had an anasarca over all his body when I saw him. His abdomen was much swelled, and an evident fluctuation was felt. His urine was in small quantity. I put him on a course of the praecipitatus cinericeus, with sulphur antimonii praecipitatum. After the mercury began to affect his mouth, on the 20th, he was ordered the precipitatus cinericeus, and the cream of tartar, alternately, every other day. It opened his body, and increased the quantity of his urine. He

often vomited, and ſweated during the night, on which he took the mercurial preparation. On the 29th, the ſwelling of his legs and belly was diminiſhed. Iſſues were put between his ſhoulders. Auguſt 6th, His belly hath fallen two inches. He ſpits a pound and a half a day. His legs are almoſt well. The iſſues do not run. 16th, His belly is fallen another inch. He ſpits three pounds. 24th, His belly is three inches leſs. He was allowed a little wine. Sept. 1ſt, His belly is fallen two inches. The ſpitting is diminiſhed. He paſſes much urine. Sept. 8th, When almoſt well of both diſeaſes, we were obliged to leave him in the Infirmary. The internal operation of the mercury and the ſulphur antimonii praecipitatum, and the vomiting and ſweating, which often happened after this medicine was taken, aſſiſted much the effects of the cream of tartar, which, therefore, has but a ſhare in the merit of this cure.

EXPER. VI. July 27. Janet Fraſer, 48, about three years ago, felt her belly increaſed in ſize, and her urine diminiſhed conſiderably. A few weeks after, her legs

ſwelled

ſwelled in the evening. Her abdomen is at preſent much enlarged, with evident fluctuation. She feels a pain in both hypochondria, and a palpitation and conſtriction about her heart. Her breathing is difficult in bed, and ſhe cannot lie on either ſide. Pulſe 64, and weak. ℞ Crem. tart. unc. ſs. &c. 29th, Her body is more open, and her urine is increaſed. Rep. crem. tart. drach. vi. Aug. 6th, Her legs are much fallen. Her body is bound. Rep. crem. tart. unc. i. 16th, Though the ſalts ſometimes purged her, yet ſhe was often ſo coſtive, that we were obliged to order a clyſter. She ſweats about her neck and breaſt. 28th, Her legs are of their natural ſize; and her belly is almoſt reduced. 31ſt, The pain of her breaſt, and the difficulty of breathing are almoſt gone, ſo that ſhe can lie equally well on either ſide, and on her back, which ſhe has not been able to do for theſe two years. Sept. 8th, She was diſmiſſed cured. This patient was cured in about forty days, of an anaſarca, aſcites, hydrothorax, and perhaps hydrops pericardii, without any conſiderable increaſe of the excretion of urine,

urine, or of ſtool, her body being generally bound during the cure.

Exper. VII. Auguſt 18. Margaret Richardſon, 37, after a fever, was ſeized with a ſwelling of her legs, and diminution of urine. Her feet and ancles are much pained, ſwelled, and pit on preſſure. She has a drought, and a white tongue; and complains of head-ach, and want of ſleep. Pulſe 88. ℞ Crem. tart. unc. ſs. diſſ. in aq. Cap. mane. 27th, Her ſtools are looſe, and her urine is increaſed. Her ancles and feet are now alone ſwelled. 31ſt, The ſwellings are almoſt gone. Her urine is high coloured, turbid, and thick at bottom. She purged thrice a day. Sept. 4th, She was ordered the bark. 8th, Diſmiſſed cured.

Exper. VIII. July 16. Jean Short, 70, was attacked with anaſarcous legs, about five months ago, on the diſappearance of ſome hard, and blue or livid tumours on her legs. The anaſarca is general over all her body. Her belly is alſo ſwelled; but no fluctuation can be felt. Her urine is diminiſhed; and ſhe has had great thirſt, and a diarrhoea, attended with white

white ſtools for ſome days. Cap. L. L. gtt. xx. h. ſ. Cap. crem. tart. unc. ſs. diſſolut, mane. 19th, The purging has ſtopt ſince ſhe took the opiate. Her body is bound, and her urine is not increaſed. The ſwelling of her abdomen and feet is diminiſhed. 24th, Her body is gently opened by the medicine. She ſleeps none for cough and pains, for which we were obliged to repeat her opiate often. Aug. 7th, Her belly is almoſt in a natural ſtate; and the other ſwellings are ſtill abating. 10th, Pulſe quick and low. She complained of ſickneſs and pain in her belly. The bark and wine were ordered; but ſhe died on the 12th at night. This fatal iſſue ſeemed neither owing to the dropſy, nor to the evacuation produced by the cream of tartar; but to a preceding diarrhoea, and to a palſy which then threatened her.

EXPER. IX. February 11, 1774. Francis Hardy, 60, a ſmith, and uſed to drinking, has been affected for ſix years with difficult breathing, cough, pain of his breaſt, ſenſe of weight between his ſhoulders, and increaſe of his complaints when he lies on his back, or left ſide.

Some

Some time ago, his legs and body began to ſwell. A ſenſible fluctuation can be felt in his abdomen. He has a paucity of urine. His body is bound. Pulſe 100. From a ſenſation of ſuffocation, when going to ſleep, he ſtarts up to an erect poſture. Here anaſarca, aſcites, and hydrothorax ſeemed to be complicated, and the caſe appeared to be very dangerous. He was put upon a courſe of cream of tartar. 14th, His body is rather looſe. His legs and arms are fallen. He has little appetite; and he was allowed table broth and meat. 16th, Pulſe 84, and weak; ſo I omitted his medicine, and gave him wine and cordials. 17th, He died. On inſpecting the body, there were found about three pounds of fluid in the thorax, contained moſtly in the right ſide, with ſome ſlight adheſions of the lungs to the pleura. The right lobe was ſound; but, on cutting the left, a good deal of pus iſſued out. The pericardium was much fuller of fluid than it ought to be. In the cavity of the abdomen, about ſix pounds of lymph were found. The liver was harder than uſual; but there were no

marks

marks of ſcirrhus. The other viſcera were ſound. The immediate cauſe of his diſeaſe and death was the ſcirrhous and purulent affection of the left lobe, which did not allow the medicine time to produce its effects.

EXPER. X. March 4. John Farquhar, 60, about the beginning of January laſt, felt a pain in the region of the liver, eſpecially on being preſſed. His belly began to ſwell about the middle of the month. In the beginning of February, his legs became oedematous, one of which is excoriated, and diſcharges a thin fluid. He can ſcarcely lie horizontally in bed, and ſtarts, for fear of ſuffocation, when going to ſleep. He has not been able to lie on his left ſide for two months, as it occaſions the pain, and difficulty of breathing. He feels neither weight, oppreſſion, nor fluctuation in his breaſt. His cough is dry; and his body bound. His urine is of a deep colour, and diminiſhed in quantity. Pulſe 110, but not irregular. He has had a nauſea and vomiting theſe four days. Cap. crem. tart. unc. ſs. &c. 7th, He is purged gently; and

and his urine is conſideraby increaſed, and feels hot. He vomits ſometimes. The pain of his liver is increaſed, when he lies on the left ſide. 8th, He died this day, when raiſed up in bed, and ſpeaking as uſual. In the abdomen, there was found about a pound of lymph; and the inteſtines adhered in ſome places to the peritoneum. The liver was conſiderably larger than natural; but it was not ſcirrhous. About a pound and a half of fluid was found in the right cavity of the thorax. The under part of the right lobe of the lungs, and the diaphragm and pleura contiguous to it, were much inflamed. Part of the pulmonary artery was oſſified.

EXPER. XI. March 15. Alexander Walker, 18, weaver, was affected, two years ago, with oedematous ſwellings of his legs. In December laſt, they turned red and itchy. Within theſe three weeks, he has felt a pain, when coughing, in his right ſide. Pulſe 100, and ſoft. Cap. crem. tart. unc. ſs. &c. mane. 18th, His urine is augmented; but his body is not affected. The cream of tartar was increaſed

creaſed to ſix drachms. 20th, Pulſe 120; and his body is open. His legs are much fallen, and leſs diſcoloured; his urine is much increaſed, and as limpid as water. Half of the cream of tartar is taken in the morning, and the other half at night. 27th, Pulſe 114; the ſwelling of his legs is much diminiſhed, and their colour is natural. His body is not ſo looſe ſince the doſe was divided. 27th, His legs, for theſe three days, have been of their natural ſize. 28th, Diſmiſſed cured.

EXPER. XII. March 31. John Young, 22, has had a cough, and pain of his breaſt, for three years. About ten days ago, he was ſeized with ſevere pains in all his lower extremities, which went off on bleeding. After this, his legs and feet began to ſwell. Laſt night, he was ſeized with cough, dyſponea, and ſpitting of blood. Urine not leſs. Pulſe 170. Fiat venaeſ. ad unc. ix. April 4th, Legs much ſwelled. Cap. crem. tart. unc. ſs. quotidie mane. 7th, Swellings better. His body is looſe, and his urine is increaſed. 13th, The oedematous ſwellings are gone.

EXPER.

EXPER. XIII. Dec. 4, 1774. James Smith, 23, about October 29th, perceived his legs and abdomen begin to ſwell, with evident fluctuation, but without any diminution in the quantity of his urine. He had taken jallap and calomel, the bark, and the decoctum Luſitanicum; and his belly had been rubbed with camphorated oil, without any good effect. His pulſe is regular. Cap. crem. tart. unc. ſs. &c. unaq. mane. 11th, He was purged twice a day, for a few days, but not afterwards. The quantity of his urine is increaſed. Rep. crem. tart. ad drach. vi. 13th, His body is bound, and is half an inch leſs in its circumference. Rep. crem. tart. ad unc. i. 20th, His body is bound, and his urine is in leſs quantity; but his belly is an inch leſs. Rep. crem. tart. ad drach. x. 26th, His body is always bound. Rep. crem. tart. ad unc. i. ſs. Jan. 3d, Urine not increaſed. His belly has fallen three inches. 9th, His belly has increaſed to near its former ſize; and he is always coſtive. I was now obliged to change it for the ſquills, which were attended with no better effect. 17th, Being tapped, about

about ſixteen pints of a bloody fluid came off. A hardneſs was now felt in the left ſide of the abdomen. He was then put on a courſe of mercurial pills, till his mouth was affected. But, on the 21ſt, his belly began to ſwell again. On the 8th, He was diſmiſſed not cured. Here the body was conſtantly bound, and the urine not increaſed in quantity, though this patient was taking an ounce and a half of the cream of tartar in the day. It had once reduced his belly three inches, which neither the ſquills nor mercury did.

EXPER. XIV. February 15, 1776. Janet Millar, 22, unmarried, after a fever, two years and a half ago, obſerved her belly begin to increaſe. She ſaid that the tumor appeared firſt in her left ſide, and towards the bottom of the abdomen; that it was circumſcribed, and gradually increaſed for ſome months, before any ſwelling appeared on the right ſide. But no induration or circumſcribed tumor could now be felt; and a fluctuation in the abdomen was evident. Her legs began to ſwell about ten months ago. Her urine was not diminiſhed. Her body is coſtive.

Pulſe 92, and rather weak; and ſhe has a dyſpnoea. Menſes regular. Cap. crem. tart. unc. ſs. mane. 19th, The powders had no ſenſible effect. Rep. mane, & hor. 5ta, P. M. 21ſt, They produce no effect. Rep. ad drach. vi. bis in die. 23d, Pulſe 110, body looſened twice or thrice a day. As ſhe was feveriſh, we ſuſpended the medicine. 25th, Rep. crem. tart. 28th, Her body is bound, and ſhe has colic pains. Injiciat. clyſma. March 9th, Salts do not purge her. Rep. crem. tart. ad unc. i. bis in die. 10th, The ſalts produced no effect. I now diſcovered that they had been given with only a gill of water. They were ordered to be diſſolved in twenty ounces. 11th, The ſalts now purged five times; ſo I was obliged to diminiſh them to ſix drachms. 16th, Her urine is not increaſed; but her body is looſe. Her belly is fallen near three inches altogether. 22d, Her belly is fallen about four inches and a half. 30th, Her belly is fallen ſix inches. After this her belly did not continue to fall; ſo we ordered dried ſquills, which ſhe continued to take for twenty days, without any advantage.

EXPER.

EXPER. XV. March 4. David Bethune, 31, a ſailor, on the ſtopping of a diarrhoea, which had laſted two years, perceived his abdomen to ſwell, about the 20th of December. After the uſe of ſome medicines, his belly fell. February 24th, From expoſure to cold and wet, his belly and legs again ſwelled. He has now an evident fluctuation, dyſpnoea, cough, with ſome viſcid expectoration, little urine, great thirſt, and a hydrocele. Pulſe 114. Cap. crem. tart. unc. ſs. bis in die. 8th, He has purged once. Rep. crem. tart. ad drach. vi. bis in die. 9th, He is not purged, nor is his urine increaſed. Cap. crem. tart. unc. i. pulv. jallap. gr. vi. bis in die. 10th, He had only two looſe ſtools. Rep. crem. tart. cum pulv. jallap. 11th, He was remitted to the ſurgeons; and was afterwards tapped, and he died on the evening of the day on which the operation was done.

EXPER. XVI. December 25, 1776. Ann Mill, 30, about eight days after delivery, perceived her abdomen begin to ſwell; and a fluctuation is now felt in it. Her legs are much ſwelled, hard, and

elaſtic. She has an orthopnoea, cough, pain in her breaſt, leſs urine, and thirſt. Pulſe 80. Cap. crem. tart. unc. ſs. quotidie mane. 29th, She purged generally twice a day. Her urine is increaſed. Her left leg is fallen in ſize; and ſhe now breathes eaſier in bed. January 2d, Her urine is much increaſed; and her belly and legs are much leſs ſwelled. Her urine is of a ſtraw-colour, with ſome ſediment. 8th, Diſmiſſed cured.

EXPER. XVII. February 10, 1778. Malcolm M'Culloch, 53, addicted to drinking, had, five years ago, a fever, followed by three relapſes. His legs afterwards ſwelled and pitted, eſpecially when he was expoſed to cold and moiſture. A month before he came in, he was ſeized with a dry cough, dyſpnoea, orthopnoea, tightneſs and pain of the breaſt under the ſternum, and ſudden ſtarting when going to ſleep, as if from ſuffocation. An evident ſwelling was obſerved in his breaſt, at the extremity of the firſt and ſecond ribs, on the left ſide, where he received a ſtroke five years ago, and which ſtill continues painful on preſſure. His urine is

in natural quantity; but it is high coloured. His pulſe is from 64, to 68, and weak, but not irregular. Cap. crem. tart. unc. ſs. quotidie mane, diſſ. in aq. font. unc. xii. 14th, His breathing is a little eaſier; his body is looſe; and his urine is increaſed, and is very limpid. 16th, His legs are leſs ſwelled; and his breathing is eaſier. 21ſt, The ſwelling of his breaſt is almoſt gone; his cough is leſs; and his urine is pale, and much increaſed. 26th, His body is opened only every other day. March 3d, All his complaints are gone, except a ſlight cough, which he has had for theſe five years. The ſalts were ſtopped, and ſome tonic pills were given. 11th, Diſmiſſed cured. Thus this hydrothorax was cured in twenty-three days.

Exper. XVIII. March 12. Euphemia Johnſtone, 48, mother of twelve children, was affected for three years with cough and dyſpnoea. Laſt October ſhe was ſeized with pains in the left and inferior part of her abdomen. Within theſe three weeks, her belly, loins, and legs, have ſwelled. She can lie eaſieſt on the

left ſide. Her urine is diminiſhed. She has thirſt. Pulſe 96. Cap. infuſ. bacc. junip. unc. iii. quater in die. 16th, She has paſſed a pound and a half of urine during the laſt twenty-four hours, which formerly ſhe would not have done in three days. 18th, The ſwellings are not decreaſed. I tried her with dried ſquills, which purged her, and increaſed her urine; but the ſwellings were not diminiſhed. April 1ſt, Cap. crem. tart. unc. ſs. &c. mane. 5th, Her legs are leſs ſwelled at night. 11th, The ſwelling of her legs at night is entirely gone. Her body is looſe, and ſhe makes more urine. A preternatural ſwelling was diſcovered in the region of the liver. 20th, The region of the liver is leſs ſwelled and hard. Her belly is much fallen. 24th, The ſwelling of the abdomen is gone, and ſhe has no complaints. She was ordered half a drachm of the chalybs tartarizatus, twice a day. 28th, Diſmiſſed cured.

EXPER. XIX. March 16. Sophia Mack, 31, caught cold about three weeks ago, while taking purging ſalts. Two days afterwards, her legs, and then her body, began

began to ſwell; and ſhe is now very anaſarcous. Theſe complaints were attended with a dry cough, much hoarſeneſs, pain of her head, dyſpnoea, nauſea, thirſt, frequent ſhivering, ſevere ſtitch in her breaſt, and with a difficulty of lying on the left ſide. Pulſe from 70 to 80, and very ſtrong. As theſe dropſical complaints appeared to ariſe from a local pulmonary affection, or, at leaſt to be attended with a general inflammatory ſtate, which is uncommon in this diſeaſe, venaeſection, mucilaginous pectorals, and caſtor oil were ordered. The blood was covered with a thick inflammatory cruſt. 19th, Pulſe 76, and ſtill ſtrong. She ſpits ſome blood; and her breathing is difficult. Repet. venaeſ. ad unc. ix. 20th, Her blood is as before. The haemoptoe is gone. 21ſt, Her legs are leſs ſwelled, and her breathing is eaſier; but ſhe feels a pain in both ſides when ſhe coughs. Rep. venaeſ. ad unc. viii. 22d, Pulſe 72, and yet too ſtrong. Her blood has ſtill an inflammatory cruſt. She was ſeized laſt night with a ſevere ſtitch in her left ſide, a palpitation and conſtriction at her breaſt, and a ſevere dry cough.

Rep. venaeſ. ad unc. viii. Rep. ol. ricini. 23d, Pulſe 72, and ſofter. Her blood is ſtill with an inflammatory cruſt. Her breathing is eaſier. The ſwellings of her legs and body are now better. Cap. crem. tart. unc. ſs. quotidie mane. 27th, Her body is rather bound; and her cough is ſevere. Pulſe ſtill ſtrong. Rep. venaeſ. ad unc. viii. 28th, The pain of her breaſt is gone; and ſhe lies on the left ſide, as eaſy as on the right. Her hoarſeneſs is much better. Her blood is ſtill ſizy. Her legs are leſs ſwelled; and ſhe makes more urine. 30th, She has ſpitten a little blood. Rep. venaeſ. ad unc. viii. Blood as before. She feels herſelf eaſier. April 3d, She had a ſevere cough during the night. Her pulſe is ſtill ſtrong. Rep. venaeſ. ad unc. viii. Her blood has leſs inflammatory cruſt. 5th, Her noſe bled a little this morning, and the bleeding would have continued, but ſhe ſtopped it. She went out this day almoſt well. This caſe is curious, as it ſhows, that this diſeaſe may be, ſometimes acute and inflammatory; and that bleeding, ſeldom admiſſible, does then become the principal remedy. The cure here may be attributed

buted more to the ſix bleedings, after each of which ſhe was ſenſibly relieved, and the ſwelling decreaſed, than to the cream of tartar. I was directed, chiefly, by the ſtrength of her pulſe. This dropſy probably aroſe from an inflammatory obſtruction in the lungs, in which the cream of tartar was undoubtedly of ſome uſe.

EXPER. XX. December 5. Jean Robinſon, 33, being delivered of a child, five weeks ago, was ſeized, a few days afterwards, with a violent pain in the region of the liver, attended by a pain in the right ſhoulder, cough, and dyſpnoea. About eight days afterwards, theſe ſymptoms abated; but ſhe perceived her legs and face, and then her belly, to ſwell. Her urine is defective, and high coloured. Thirſt. Pulſe 88. She was put on a courſe of the cream of tartar, in the quantity of half an ounce, each morning, which was by degrees increaſed to an ounce. The ſwellings went off gradually; and, in fifteen days, all her complaints were gone. Even the obſtruction of the liver was cured.

Thus

Thus I have faithfully ſtated the facts, with every circumſtance which appeared to me to belong to the diſeaſe, or remedy, of which we are treating. It now remains to draw ſome concluſions from the preceding experiments..

1. Of twenty hydropic patients, thirteen were cured, and ſeven were not cured of their hydropic ſymptoms; that is, certainly, a very great proportion of the ſucceſsful to the unſucceſsful caſes, in a diſeaſe which is generally ſo very dangerous. A remedy, which cures near two thirds of thoſe labouring under this diſeaſe, where nature lends but very little aſſiſtance, is a valuable medicine. Though this diſtemper is very ſubject to relapſe, yet it has happened to none of them, ſo far as I know.

2. Let us conſider theſe caſes in detail. The anaſarca is complicated with eighteen of the twenty caſes. Of pure anaſarcous caſes, there are ſeven, of which five were cured, and two were not. Of twelve caſes of aſcites, ſeven, of which only two ſeemed pure, were cured, and five were not. This is more than the half, and a great

great proportion in a ſpecies of dropſy, which is more difficult to cure than the former. Of four in hydrothorax, two were cured, and two were not. Theſe were all complicated with the other ſpecies. This ſtill ſeems to me a very great proportion, in a ſpecies of dropſy, the moſt incurable of any. Another hydrothorax was cured, in private practice, with the cream of tartar. It follows, therefore, that we may depend moſt on its ſucceſs in the anaſarca, next in the aſcites, and leſs in the hydrothorax than in the other two.

3. We cannot but obſerve, from the caſes, that the diſeaſe was mortal in the three eldeſt, two of whom were of ſixty, and the other ſeventy years old. This will naturally be thought owing to the evacuative and debilitating effects of the remedy. There is ſome reaſon to think ſo in Exper. VIII. where there was a previous diarrhoea. But it is more probable that it was not, as the medicine neither purged her, nor increaſed the quantity of her urine. It is rather to be attributed to the cauſes of the diſeaſe being

more

more difficult to remove in a perſon of ſuch an advanced age. Beſides, in Exper. VIII. where the patient was ſeventy years of age, there was ſome paralytic ſymptoms; in Exper. IX. there was purulent matter in the lungs; and in Exper. X. there was an offification of the pulmonary artery.

4. In Manghſini's caſes, the diſeaſe was recent. Many of our preſent caſes were not only of ſome months, but of ſome years ſtanding. In Exper. II. and XI. the anaſarcous ſwellings had continued for two years. In Exper. VI. the aſcites had ſubſiſted for three years. In Exper. XVII. the oedema of the legs had laſted for five years, while the hydrothorax was of a later date. The older the diſeaſe, the more difficult, certainly, the cure becomes. This view of the caſes is very much in favour of the powers of cream of tartar in this diſeaſe.

5. Let us ſtate the viſible effects of this medicine. It ſeems once or twice to have excited vomiting. But that it is ſo rare an effect, that it may be attributed to the diſeaſe, rather than to the medicine. It generally purges twice or thrice a day.

But,

But, in many of the caſes, it was not purgative, as in Exper. I. II. III. VI. XIII. XIX. In ſome of them, it ſeemed rather to have rendered the body more coſtive; as in Exp. IV. VI. VIII. XIII. In the two laſt, the patients had, when they began to take this medicine, even a diarrhoea; yet it diminiſhed afterwards. So the purgative quality of this medicine ſeems to be very weak. When it does not open the body, it ſometimes produces ſlight colic pains. It generally increaſes the quantity of urine, though not near ſo much as the juniper berries, ſquills, &c. In many, the urine was not ſenſibly, or but little increaſed, as in Exper. II. III. VI. VIII. XIII. Manghini obſerved, that the urine was thick, bilious, and ſabulous. The urine of our patients, two caſes excepted, was always paler and clearer than natural. In ſome of them, it ſeemed neither to affect the body nor kidnies; as in Exper. II. III. XIII. XIX. and but very little in Exper. IV. VI. VIII. During the uſe of it, the appetite became better, the thirſt leſs, and the heat and fever diminiſhed. The

patients

patients were a little leaner at the end, but not ſo much as Manghini deſcribes.

6. If we can diſcover the mode of its operation, we ſhall more certainly ſecure its ſucceſs. It ſeems to act, 1. As an evacuant, for it is purgative and diuretic. Purgatives and diuretics cure: Much more muſt a medicine which excites both evacuations. By ſtimulating theſe excretory organs, it determines more fluids to them, and increaſes the evacuation. The veſſels being thus emptied, the abſorption from the cavities is increaſed to fill the veſſels again. 2. As a deobſtruent, which I conſider as its principal mode of operation. We have found, that the oxymel colchici, juniper berries, &c. are much ſtronger diuretics, but much weaker antihydropics, than cream of tartar is. We have ſeen, that it often neither increaſes the excretion by urine nor ſtool, and yet that it cures. Though we have many proofs, a ſingle inſtance only is ſufficient to ſhow, that it can operate in other ways than by evacuation. It is well known, that obſtructions of the different thoracic and abdominal viſcera, eſpecially of the liver, are the

general

general cauſes of dropſy. Deobſtruents, which remove this cauſe, muſt have the greateſt ſhare in the cure of the dropſy. It appeared powerfully deobſtruent in Exper. XX. I have of late uſed it with great ſucceſs in obſtructions of the liver. I have long looked on this as the principal operation even of all diuretics and purgatives, as they all poſſeſs this quality, eſpecially the draſtic purgatives. They ſtimulate the obſtructed veſſels to quicker motion, ſo act as powerful aperients. All vegetable acids, of which tartar is one, are deobſtruent. Vinegar has cured many dropſies. The leanneſs that follows the long uſe of this medicine, is a proof that it acts in this way. It appears from the caſes, that this medicine is more ſucceſsful in the warm weather of ſummer, than in the cold of winter. But, in winter, it muſt prove more diuretic, if not more purgative too; in ſummer, more deobſtruent; which obſervation ſtrongly ſupports my opinion. This mode of operation appears to me more powerful, extenſive, and uſeful, than its evacuant quality.

7. Let

7. Let us next view the quantity to be given. I have generally begun with half an ounce exhibited in the morning, at different times; ſo that the laſt doſe may be taken an hour before breakfaſt. The medicine was gradually increaſed to ſix drachms, and in one caſe to two ounces, a day. The doſe ought generally to be regulated by its effects on the body, which ſhould be open during the courſe. When an ounce a day is given, and excites purging, one half ſhould be exhibited in the morning, and the other in the evening, that it may not run directly through the inteſtines, but may enter the habit. If it is to act as a deobſtruent, it muſt neceſſarily operate in the vaſcular ſyſtem.

8. The manner of exhibiting it ſeems to be of great moment. I have always given it diſſolved in water. As this ſalt is very inſoluble, it requires, at leaſt, twenty times its quantity of cold water to keep it diſſolved. It has been generally given, by others, in the ſolid form of an electuary, as a quantity of liquid, ſufficient to diſſolve it, was thought to be improper in this diſeaſe. But the former method ſeems preferable

ferable. 1. Water appears to be medicinal, and a cure for dropſy. The patient has a conſtant demand for drink, which, if hurtful, is perhaps the only appetite of the deceitful kind which occurs in diſeaſes. I have known ſeveral cured by drinking Dunſe water plentifully, even after it had been carried home, at the end of which time it could not be better than common water. Dr. Baker has given us many caſes, where cold water, in great quantity, brought on a flow of urine, and cured the dropſy. 2. If given in a ſolid form, it cannot find fluid in the inteſtinal canal ſufficient for its ſolution; ſo cannot act. Of this, a moſt convincing proof occured. In Exp. XIV. I was ſurpriſed that an ounce of cream of tartar had produced no ſenſible effects. On enquiry, I found that the nurſe had only put three or four ounces of water to it. It was ordered to be diſſolved in the due quantity of water. It then purged five times; ſo that, afterwards, we were obliged to diminiſh the doſe. If not diſſolved, it cannot enter the veſſels; ſo cannot act as a deobſtruent. Beſides, when not

diſſolved, it is apt to produce colic pains, as in that experiment.

9. The medicine muſt be continued until the diſeaſe is gone, and for ſome days afterwards. Manghini ſays, that it often produced no ſenſible effects for twenty, nay, even for forty days. Its effects are generally viſible in two or three weeks. If not then, few can be perſuaded to try it longer. In ſome of the preceding caſes, if continued, it might perhaps have ſucceeded. But the continuance of it, for a very long time, becomes diſagreeable, eſpecially when not attended with very evident ſucceſs.

10. I generally order friction by means of the fleſh-bruſh along with it. This aſſiſts the circulation through the veins, hence removes one cauſe of depoſition. It alſo promotes the abſorption of the lymphatics; hence removes another.

11. As dropſy ariſes from a laxity of the veſſels, and as this courſe muſt weaken, it appears prudent, after the cure, to give tonics, as bark, gentian, ſteel, &c. for ſome days. Theſe will reſtore the tone of the

the ſyſtem, and prevent, as far as we can, any freſh depoſition.

SCILLA EXSICCATA.

The ſquills have been long uſed in the cure of the dropſy. Dioſcorides and Pliny recommend them. The moderns truſt much to them. But in exhibiting them, in the common method, I ſeldom met with ſucceſs. In adhering tenaciouſly, however, to a medicine conſecrated by long experience, I obſerved after a length of time, that they produced violent vomiting, attended with the ejection of much liquid, though none had been drunk, and with ſome other ſingular circumſtances; and that after the fit of vomiting was over, the hydropic ſwellings and ſymptoms were either much abated, or entirely gone. This accidental diſcovery ſuggeſted a method of uſing this medicine, which I alone, as far as is known to me, have yet practiſed, and with conſiderable ſucceſs. The facts ſhall firſt be ſtated, that every one may judge for himſelf.

EXPER. XXI. May 24, 1769. Thomas Keir, 45, a taylor, has been affected, for four years, with dyſpnoea, cough, uneaſineſs when he lies on his right ſide, a ſenſation of ſomething moving in his breaſt when he turns himſelf in bed, and with a pain and ſwelling about the liver. Theſe ſymptoms ſtill continue. About ſix weeks ago, an anaſarca and aſcites appeared, with a ſenſible diminution of his urine. He had uſed garlic, for ſix weeks, in vain. He firſt got two drachms of the oxymel colchici, which quantity was gradually increaſed to ten drachms, each day. It kept his body open, and ſometimes augmented his urine. June 10th. As the hydropic ſwellings were no better, it was changed for Pulv. ſcill. exſic. gr. iii. ſal. nitr. Pulv. nuc. moſch. aa gr. x. ſyr. q. ſ. M. fiat bol. Cap. cras mane, & repet. quotidie. This produced pain in his ſtomach, vomiting, purging, and increaſed his urine. 13th, The ſwelling of his belly and legs is much fallen. I reduced the doſe of the ſquills to two grains, and gave an opiate at bed-time. 15th, He has had a ſevere fit of vomiting each morning after his bolus,

lus, during which he throws up much bile, and watery fluid. His belly and legs are quite fallen to their natural ſize. His cough is eaſier; his breathing is relieved; and he can lie on his right ſide. As the waters had gone off ſo quickly, and as he complained of weakneſs, his belly and legs were bandaged, and ſome tonics were ordered. After this his urine continued in great quantity, though the ſquills were ſtopt. July 4th, He was diſmiſſed cured. This patient continued well for ſix months, at the end of which time he was again ſeized with ſimilar ſymptoms. I was told that cream of tartar was tried with him, and that it increaſed his urine; but he died. When opened, his lungs adhered almoſt wholly to the pleura; and, in the right cavity, there was found a pint of fluid, which muſt have preſſed much, as the lungs adhered almoſt wholly. We found, on the right lobe of the liver, pointing to the ribs, two contiguous tumors of a white colour. Their coats were as hard as cartilage, and they contained a thick ſteatomatous matter. They would have weighed about half a pound. The

gall-bladder was moderately full. There was no fluid in the abdomen. Here was an anaſarca, aſcites, and hydrothorax, as the ſymptoms ſhowed. Theſe were all carried off in a few days, by the emetic power of ſquills. The inſpection of the body made the preceding diſeaſe more certain.

EXPER. XXII. May 30. Iſabel M'Donald, 60, perceived her legs firſt begin to ſwell, then, about fourteen days ago, her belly, which is at preſent very big, and an evident fluctuation can now be felt in it. Her reſpiration is difficult, eſpecially when ſhe lies on her left ſide. She makes little urine. She complains of much thirſt; and of a pain in both hypochondria, but moſtly in the right, which is much fuller than the left. ℞. Pulv. ſcill. exſicc. gr. iii. &c. Cap. quotidie mane. June 1ſt, Another grain of ſquills was added. 4th, The bolus has purged her, and increaſed her urine; and ſhe vomited much laſt night. The ſquills were reduced to three grains. 6th, She vomited and purged frequently. Her urine is much greater in quantity than her drink.

drink. Her legs and belly are much fallen. 17th, She has vomited frequently for ſome days. The ſwellings are almoſt gone. Her belly and legs were bandaged; and ſome tonics were ordered. 28th, The pain about the liver gone; and ſhe can now lie equally well on both ſides. July 18th, Diſmiſſed cured. This was a bad caſe, from her age, and weakly habit; but the diſeaſe was recent. It is probable, that ſhe had an hydrothorax. The pain and fulneſs in the right hypochondrium, ſhow that the liver was affected. The ſquills increaſed all the evacuations violently, and carried off the waters in ſeventeen days.

EXPER. XXIII. July 11. Roderick M'Kenzie, 18, after expoſure to cold, was ſeized with cough, and pains in the right and left hypochondria, for which he was bled. About the 1ſt of May his belly began to ſwell. At preſent his urine is high coloured, but not diminiſhed; and his belly is much ſwelled, and an evident fluctuation can be felt in it. Pulſe 90. ℞. Pulv. ſcill. exſ. gr. ii. &c. Cap. quotidie mane, & h. ſ. 13th, No nauſea nor purging; but his urine is increaſed; and he

ſweats. 15th, His belly is much fallen. ℞: Pulv. ſcill. gr. iii. &c. Cap. u. a. 17th, He vomited and purged; but his urine is not increaſed. Belly much leſs. 18th, Vomited much this morning, during which his pulſe was 48, and weak. Cap. ſtatim L. L. gtt. xxv. He vomited after this doſe. 19th, His belly is now of a natural ſize, and has altogether fallen about nine inches. Pulſe 58. He has had no increaſe of urine. No pain now in the hypochondria. Tonics were then ordered. 22d, As he complained a little of the pain under the ſhort ribs, the ſquills were again preſcribed, which excited vomiting on the 24th, and generally purged him. The ſquills were given up on the 25th, and the tonics were continued. Afterwards, he got the infuſion of Juniper berries, which proved much more diuretic than the ſquills. Aug. 6th, Diſmiſſed cured. This diſeaſe aroſe evidently from an obſtruction in the liver, as a pain under the ſhort ribs of the right ſide appeared before the aſcites. Two grains of ſquills increaſed his urine, but no other evacuation; and his belly diminiſhed. On giving three grains, he vomited

mited often during a whole day, threw up much fluid, and purged ſome. His cure was chiefly owing to vomiting, as the evacuation by ſtool and urine was not great.

EXPER. XXIV. July 7. Richard Donaldſon, 23, a negro, fourteen days ago, obſerved, without any cauſe, his abdomen ſwell, which has gradually increaſed, with obſcure fluctuation. There is no pain or hardneſs to be felt about the liver. His urine is diminiſhed. He complains of drought; and his body is rather looſe. Pulſe natural. ℞. Maſſ. pill. ſcill. unc. ſs. pill. merc. drach. ſs. M. divid. in pil. pendent. gr. v. Cap. pil. vi. h. ſ.; and that they might, with the more certainty enter the ſyſtem he was ordered to take, after each doſe, twenty drops of laudanum. In a day or two, he took likewiſe the pills in the morning. On the 10th, 11th, and 12th, he vomited after each doſe, and his urine was increaſed a little. Belly leſs. He was then ordered to take only four pills night and morning. 15th, His urine is not increaſed, and his belly is not fallen. The number of pills

were

were again augmented to ſix. 16th, His belly is more ſwelled, and his urine is in leſs quantity than natural. The pills were omitted. ℞. Pulv. ſcill. exſicc. gr. iii. &c. which were afterwards increaſed to four grains. This continued to purge only, and to expel much wind, which reduced, for the time, his belly; but it ſoon returned to its uſual ſize. 20th, As he complained of weakneſs, the medicine was ſuſpended for three days, during which he got oxymel colchici to the quantity of ten drachms the laſt days, without any ſenſible effect. 23d, As his ſtrength had returned, he was again ordered dried ſquills, morning and evening. They increaſed his urine, and kept his body open. On the 28th, he vomited, and his belly became leſs. Cap. L. L. gtt. xxv. h. ſ. 29th, He vomited for many hours, and threw up more than 12 pints of fluid; but he did not purge any, or paſs more urine. During the vomiting, his pulſe was 40 in a minute. At night, he took an opiate, and had his belly bandaged. 30th, Pulſe 76. His belly is of its natural ſize. Tonics were preſcribed. Auguſt 12th, His urine has been

for

for ſome time in the natural quantity. Diſmiſſed cured. Here the belly never fell, but after a fit of vomiting.

EXPER. XXV. July 23, 1770. Aliſon Bell, 50, labouring under cough and dyſpnoea for twelve years, was affected, three weeks ago, with anaſarcous ſwellings of her legs, and ſome feveriſh ſymptoms. An aſcites appeared ſome days after the fever retired. An evident fluctuation of his abdomen can be felt. ℞. Pulv. ſcill. exſicc. gr. iii. &c. 26th, Urine increaſed. Rep. bol. h. ſ. & mane. 28th, Urine much increaſed; and he vomited laſt night, and this morning. His legs and belly are leſs ſwelled. 29th, He vomited much, and purged laſt night. His urine is increaſed; and his belly and legs are more fallen. He took the bolus, generally, but once a day, in the morning; and a mixture, conſiſting of a ſcruple of theriac and half a grain of opium, at bed-time. Auguſt 1ſt, Swellings totally gone. He began to take tonics; and on the 11th, he was diſmiſſed cured.

EXPER. XXVI. February 11, 1774. Janet Hays, 17, felt a ſwelling in her ab-

domen, about a month ago, accompanied with thirſt, paucity of urine, dyſpnoea, cough, which two laſt ſymptoms are much increaſed when ſhe lies on her left ſide. Pulſe 104. Her menſes are regular. ℞. Pulv. ſcill. exſicc. gr. ii. &c. 13th, No ſenſible effects can be obſerved from the mdicine. ℞. Pulv. ſcill. gr. iii. &c. 15th, His body is looſe, and his urine is not increaſed. Rep. bol. h. ſ. & mane. 17th, ℞. Pulv. ſcill. gr. iv. &c. 22d, Produces no ſenſible effects. ℞. Pulv. ſcill. gr. v. &c. 24th, She vomited after each doſe, laſt night, and this morning. 25th, About an hour after taking laſt night's bolus, ſhe began to vomit, which continued frequent during the night. Her noſe bled a little. She vomited again this morning after the bolus; and ſhe has thrown up about two pints of fluid. She has had one looſe ſtool; but her urine is not increaſed. Her belly has fallen about an inch. In the evening ſhe vomited again about a pint and a half of fluid. Her ſtomach is much pained, hard, and ſeems ſwelled. During the night, ſhe threw up about a pint and a half. Her urine increaſed. 27th, Threw

up

up a pint this morning. Abdomen ſofter and leſs ſwelled. March 2d, Her belly has fallen about ſix inches altogether. She vomited this morning, and her ſtomach is ſtill pained. 3d, Vomited much. Belly fallen an inch more ſince yeſterday. 6th, Vomited. Pulſe 54. The quantity thrown up is about a pint and a half. Body bound. 9th, She vomits at times. Her belly is of natural ſize. Pulſe 58, when the day before it was 80, and the day after 90. She was put on a courſe of tonics, and in a little time ſhe was diſmiſſed cured. Here the paroxyſms of vomiting were frequent, as they continued for ſixteen days, and but a ſmall quantity of fluid was evacuated at once, attended with pain of the ſtomach, and a ſlow pulſe.

EXPER. XXVII. February 10. George M'Aliſter, 44, was affected, ſix weeks ago, with ſwelling and evident fluctuation of his abdomen, decreaſe of urine, and pain in the region of the liver when preſſed, which hinders him to lie on his right ſide. Pulſe 94. ℞. Pulv. ſcill. exſicc. gr. iii. &c. cap. mane. 18th, Belly opened. Urine not increaſed. Ordered an opiate at bed-

time,

time, and ſome wine. 23d, Urine increaſed. Weak. Belly ſomewhat fallen. 28th, Pulſe 116, and weak. Tapped, and twenty-four Engliſh pints drawn off, two thirds of which coagulated. He complained afterwards of a great pain in the region of the liver, which part was hard and tumified. Died that night. On opening him, his liver was very much enlarged, and ſcirrhous. The meſenteric glands in were the ſame ſtate. The ſquills produced no vomiting here, and the aſcites was but little diminiſhed.

EXPER. XXVIII. Feb. 14, 1776. David M'Kenzie, 41, a weaver, of a ſcorbutic habit, has been affected, after cold, for eight weeks paſt, with ſwelling of the abdomen and lower extremities, paucity of urine, dyſpnoea, and cough. Pulſe 90. He had been diſmiſſed from the hoſpital three months before this, cured of the ſame complaints by the cream of tartar and dried ſquills. ℞ Pulv. ſcill. gr. ii. &c. 18th, The ſquills by degrees were increaſed to four grains, and given morning and evening. This quantity produced no ſenſible effects, except making his body

body more looſe. His abdomen has fallen an inch in ſize. 26th, His body is rather bound. The ſquills were increaſed to five grains. 28th, His abdomen has fallen two inches. Urine increaſed. Body looſe. The ſquills were increaſed to eight grains. March 6th, The ſquills were increaſed gradually to twelve grains, which quantity ſcarcely produced any viſible effects. His belly has fallen altogether about four inches. 7th, Vomited this morning, and purged often. 10th, He took his bolus laſt night, with addition of a grain of emetic tartar. He began to vomit about two hours after, and threw up two pints, during which his pulſe was 56. His belly has fallen an inch. The ſwelling of his legs is quite gone. 23d, The ſquills by degrees were increaſed to eighteen grains, twice a day, without any very evident effect. Hydropic ſymptoms gone. Tonics were preſcribed; and on the 28th, he was diſmiſſed cured. This caſe is ſingular, from the great quantity of the ſquills taken, and the gentle evacuations which followed; yet the ſize of the belly diminiſhed.

EXPER.

EXPER. XXIX. March 27. Farquhar M'Donald has an aſcites, of nine years ſtanding, with an evident fluctuation of his belly. It was preceded by pain, and ſwelling in the region of the liver. At preſent, he has a pain in the left hypochondrium. His urine is in ſmall quantity. Pulſe 72. ℞. Pulv. ſcill. gr. ii. &c. h.ſ. & mane. April 6th, His belly has fallen half an inch; and his ſtools and urine are increaſed. ℞. Pulv. ſcill. gr. iii. &c. 9th, His belly is a little leſs. He is ſick after taking the medicine. ℞. Pulv. ſcill. gr. iv. 16th, The ſquills were increaſed to ſix grains, which purged only. 20th, The ſquills were increaſed to ſeven grains. 26th, He left the Infirmary. Here the ſquills produced purging, but they did not vomit; and, though he had continued them for a month, yet he was not much relieved.

EXPER. XXX. Jan. 9, 1777. Agnes M'Kenzie, 17, about a month ago, after expoſure to cold, was ſeized with pains, and ſwelling of her abdomen. An evident fluctuation can be felt in it. Pulſe 100. ℞. Pulv. ſcill. gr. ii. &c. cap. h. ſ.

6 12th,

12th, Purged ſix times. Rep. bol. adend. opii gr. ſs. 12th, He purged often; and his belly has fallen two inches. 22d, He is much purged; but his belly has not fallen. Cap. tart. emet. gr. ii. pulv. ipecac. gr. v. This taken, without drinking any, made him throw up three pints of fluid. The ſquills were given up, as they purged ſo much, even although one grain only was exhibited. The cream of tartar was afterwards tried, for ſixteen days, without effect. Here the nerves of the inteſtines were very irritable, but not thoſe of the ſtomach.

After ſtating the facts, it remains that we draw ſome concluſions from them.

1. Of ten hydropic patients, ſeven were cured, in each of whom the ſquills produced vomiting, and three were not cured, none of whom had any vomiting. The contraſt here, between the emetic and other evacuative powers of this medicine, is very apparent and deciſive. In theſe three, who were not cured, the other evacuations were increaſed, but no vomiting was produced. All the ten patients laboured under aſcites. Four of the ſeven cured, had anaſarca;

three of them had hydrothorax; and two of them had both anaſarca and hydrothorax. In all the three not cured, there was a pure aſcites, one of which was of nine years ſtanding. In Exper. XXVII. where the caſe proved mortal, there was an incurable ſcirrhus of the liver and meſenteric glands. Theſe facts are ſtrong in favour of the emetic method of uſing the ſquills, when compared to the other evacuative methods, in which they are commonly exhibited. Dr. Ruſſel, de Tabe Glandulari, deſires us to ſhun vomiting; but we have found it to be the ſpeedieſt method of cure. This method appears moſt ſucceſsful in ſummer, as the firſt five patients were all cured in that ſeaſon. Of the latter five, in winter, only two were cured.

2. The viſible effects of this method are the following: The ſquills, at firſt, produce purging, and increaſe the urine, which are their natural effects, and ſometimes reduce the hydropic ſwellings a little. In a few days, ſooner in ſome, later in others, a nauſea and vomiting came on, which are often ſevere, and attended with

with an acute pain in the ſtomach. During this fit, the pulſe is remarkably ſlow. I was amazed when this ſymptom was at firſt obſerved, and was afraid of danger, which made me give laudanum and cordials, to ſtop the vomiting; but I have ſince found it to be a conſtant effect of that ſtate, and attended with no danger. It is not, perhaps, very eaſy to explain the cauſe of this ſymptom; but probably it either ariſes from the brain and heart being defrauded of blood, as the preſſure is removed from the aorta deſcendens; or from the acute pain of the ſtomach, as the ſloweſt pulſes, with which I have met, have been accompanied with pain. During this vomiting, much fluid is thrown up, and the abdomen falls in proportion. Sometimes, a pint or two only, ſometimes twelve pints, are evacuated, in one paroxyſm of vomiting. In this way, the hydropic ſymptoms diſappear, which commonly happens from two to ſixteen days.

3. This method cures, 1. By evacuation. The ſquills ſtimulate the nerves of the ſtomach, as appears from the pain attending the fit, and excite vomiting. The

action of the exhalent veſſels of the ſtomach, thus increaſed, pour out the lymph in great quantity. The vaſcular ſyſtem being emptied, the lymphatics abſorb from the cavities more plentifully, eſpecially from the abdomen, where they are aſſiſted by the preſſure from the convulſive motion of the abdominal muſcles. In this way the hydropic waters are evacuated. 2. By the deobſtruent power of the ſquills. They are known to be a powerful remedy in caſes of obſtruction, and act by ſtimulating the whole vaſcular ſyſtem. They act in this way, perhaps, for ſome days, before the vomiting commences. The pains and obſtructions in the liver diſappearing, after this method has been continued on for ſome days, are a proof of it. 3. By the deobſtruent action of vomiting, ariſing from the previous nauſea, and ſubſequent convulſive motion of the diaphragm, abdominal muſcles, and indeed of all the muſcles of the body. Its greater ſucceſs in ſummer than in winter, is a ſtrong proof of the deobſtruent effects of this method.

4. The quantity uſed for a doſe is various, according to the conſtitution. Three

or

or four grains, twice a day, were generally found ſufficient. I have given eighteen grains, in peculiar habits, without ſucceſs. When the ſquills were firſt preſcribed, it was with a deſign to excite urine; ſo a little nitre was added, and nutmeg, to correct them. The ſame formula has always been retained ſince, though perhaps this addition is not neceſſary.

5. The waters diſappeared in ſome of the caſes ſo ſuddenly, that I was afraid of the ſame bad effects as follow the paracenteſis; I therefore thought it right to order a bandage to the belly, and tonic medicines, as bark, ſteel, and bitters, to brace the ſyſtem.

ULCUS PERPETUM.

In the anaſarca, where the fluid is collected in the cellular membrane, I preſcribe iſſues, with great ſucceſs. Inciſions were uſed by the antients; and this method of cure has been much followed by the moderns. Aſclepiades is the only one amongſt the antients who recommends

iſſues in the anaſarca; but none of the moderns, ſo far as I know, have as yet uſed them. My firſt trial was not altogether voluntary, but the effect of compulſion.

A young lady after taking, during a year, a great variety of medicines for an anaſarca, under which ſhe laboured, put herſelf under my care, but with this expreſs condition, that ſhe was not to ſwallow any medicines. She was ſwelled to the ſize I had ever ſeen any perſon. In the morning, ſcarce a feature of her face could be diſtinguiſhed; her legs were as much ſwelled at night. My only reſource was in a cuticular drain. An iſſue, therefore, was put in each leg, and a ſeton in her neck. The matter was, for ſome days, thin; afterwards it turned thick. In ſix weeks the ſwelling was evidently leſs. Friction, country air, and exerciſe, were ordered. Her ſize decreaſed gradually, and in eight months ſhe was perfectly well. This became a leading cure, which I afterwards followed.

EXPER. XXXI. May 14, 1770. Janet Ogilvy, 26, after cold, began to ſwell, about

about two months ago, and her legs are ſo tumefied in the evening, that ſhe is afraid they will burſt. Her belly is ſwelled, but no fluctuation can be felt. Her whole body is oedematous, eſpecially her right ſide, on which ſhe always lies. She has a ſevere cough, and a conſtant difficult breathing. Her body is looſe. Her menſes are regular She had taken many vomits, jallap, calomel with rhubarb, ſaline draughts, and the diuretic decoction; but all in vain. Her legs had been punctured ſix days before; and the matter which came from them was very thin. Fiant fonticuli duo, unus inter ſcapulas, & alter in tibia dextra infra genu. ℞. Pil. ex allio gr. xxv. pro doſ. Cap. mane & veſp. 16th, The pain of her legs is eaſier. 20th, The iſſues begin to run. The pills purge her. The ſwelling of her face is abated. I changed the former medicine for ſome tonic pills of extract of bark, gentian, and filings of ſteel. 24th, No ſwelling above the knees. June 3d, The cough and difficulty of breathing are better, and the ſwellings are leſs. 14th, Dimiſſed cured. I attributed the chief

part of this cure to the iſſues, as the urine was never increaſed in quantity.

EXPER. XXXII. December 21, 1774. John Hay, 52, ſhoemaker, after drinking freely, perceived a ſwelling in his feet and ancles on the 8th of the month, which ſoon ſpread over all his body. His loins and belly, externally, are much ſwelled. The quantity of his urine is leſs. His breathing is difficult in bed, or on motion. Pulſe 70. He had been bled, taken phyſic, and had been once ſweated. Fiat fonticulus unus, in utraque tibia, infra genu, per lanceolam. Cap. pil. ex allio drach. ſs. mane & veſp. 24th, Urine increaſed to almoſt double the uſual quantity. 26th, Body leſs ſwelled. January 3d, Ancles fallen an inch; and there is no ſwelling above the knee. A thick matter runs from the iſſues. 8th, The ſwelling of his legs is almoſt gone. The iſſues diſcharge well. 17th, The ſwellings are gone. He was ordered ſome tonics. 26th, Diſmiſſed cured. The pills had ſome ſhare in this cure.

The effects of iſſues, therefore, appear to be ſtrong in the cure of anaſarca; and, from Exper. XXXI. they ſeem to be preferable to inciſions,

inciſions, which ſoon heal up, and muſt be renewed, to which few patients will ſubmit; whereas the iſſues continue long open. I have uſed them often with ſucceſs, and never ſaw any diſadvantage from them. In ſome caſes it has been thought, that they have even evacuated the fluids from the thorax and abdomen. By theſe drains we only imitate nature, as the ſkin ſometimes burſts, and a cure is performed in this way. As the whole cellular membrane communicates, ſo the whole part affected is emptied by iſſues. Perhaps a ſmall portion only of what is evacuated is ſeen, as the thinneſt part evaporates. The emaciation of a member, from an iſſue, is a proof of this.

SECT. XVIII.

Experiments upon ſome Remedies uſed in the Amenorrhoea.

There is no diſeaſe which appears more frequently, in the clinical ward, than the amenorrhoea, either in a ſimple, or in a complicated ſtate, as the cauſe of a multi-

tude

tude of other diſorders. We have, therefore, much opportunity to make improvements in curing it. In no diſeaſe is the cure, by the common methods, more precarious or uncertain. To ſee how frequently the old methods fail, is one ſtep towards the diſcovery of ſome new and uſeful remedy.

How often chalybeates diſappoint us, every practitioner muſt have felt. With me they have ſeldom or never ſucceeded; and I have always found them more uſeful in diminiſhing this evacuation, when too great, than in reſtoring it, when deficient.

I next expected to have found more ſucceſs from the uſe of the tincture of the black hellebore, as it was ſo ſtrongly recommended by one of ſuch extenſive practice as the late Dr. Mead. He ſays of it, "Vix "unquam ſpem fefelliſſe meminerim." If it does not produce the menſes, "Sanguis "per alias vias propulſus fuerit, unde cla- "riſſime conſtat, quanta vi ſanguinem pro- "pellendi polleat iſta medicina." After ſuch encomiums I had great hopes. But, on trying it in nine or ten caſes, it ſucceeded once only, though I gave it to the length

of four tea-ſpoonfuls a day, when Dr. Mead thought that two were ſufficient.

COMPRESSION OF THE CRURAL ARTERY.

Dr. Hamilton's propoſal,* of producing a temporary plethora in the uterus, by compreſſing the crural artery, ſo as not to ſtop altogether the circulation, ſeemed to me worthy of attention, eſpecially as it had ſucceeded, when tried by him. There was one obvious objection to it, that young ladies would never ſubmit to this operation, as a ſurgeon behoved to conduct it. It was amongſt the commonalty that this method was to be tried and rejudged. As this has not yet been done, ſo far as I know, I ſhall relate the experiments which have been made.

EXPER. I. June 26, 1769. Elizabeth Graham, 15, laboured under an emanſio menſium. The arteries in both thighs were compreſſed during an hour, by the tourniquet, which at the end of this time

* Vid. Phyſical and Literary Eſſays of Edinburgh, vol. 2d.

was

was obliged to be removed, as her thighs were diſcoloured. During the compreſſion, ſhe felt a vertigo, and a pain in the lower part of the belly, and in her back. 28th, It was tried a ſecond time, and the ſame ſymptoms attended it. 30th, It was applied again. Pulſe 108 before the application. An hour after this, during the compreſſion, pulſe 100, and of the ſame ſtrength and fulneſs. It produced great head-ach, difficult breathing, pain in her ſtomach, and violent pain in the lower part of her belly, ſtretching to her back. But it had no ſucceſs in bringing on the menſes.

EXPER. II. June 9, Jean Manſon, 22, obſtructed for two months, and affected with tremors, and hyſterical ſymptoms, had been bled, vomited, and taken pulv. rutea, which removed the hyſterical complaints, but not the amenorrhoea. The iliac arteries were compreſſed for an hour, which produced vertigo, dyſpnoea, and pain in her back. After the compreſſion was finiſhed, ſhe felt a pain and weight about the uterus. Pulſe not altered. It was afterwards applied twice with the ſame effects.

effects. 14th, Pulſe 130, and ſhe complains of dyſpnoea. After this ſhe was cured by the powder of ſabine.

EXPER. III. April 5, 1775. Margaret Neilſon, 31, obſtructed for 8 months, is affected with nauſea, cardialgia, vomiting, colic pains, &c. At 8 P. M. when her pulſe was 82, the tourniquet was applied. Five minutes after the application, ſhe complained of vertigo, thirſt, numbneſs and coldneſs of the right leg, which alone was compreſſed. 5th, Pulſe 80. She has a moiſture on her head, body, and arms; but the vertigo is gone off. 30th, Pulſe 78. She feels a nauſea, with pain and tenſion in the region of the uterus; and a pain in the back and upper part of the thigh. An hour afterwards, pulſe 78, and the ſickneſs gone; but the moiſture continues over all her body, except on her lower extremities. She complains of a pain in the back, and inferior part of the abdomen; and of a numbneſs of the compreſſed leg and thigh. 6th, The ſame effects followed its application. 7th, Artery compreſſed this night. Pulſe 84; and half an hour after the application,

it

it was 78. She feels rather more ſickneſs and thirſt; and ſhe had a pain of her head and ſtomach next day. Seven days afterwards ſhe was bled, and the menſes appeared.

EXPER. IV. April 3. Margaret Bowie, 20, of a florid complexion, has had an amenorrhoea for two months. Her eyes and fauces are inflamed; and ſhe has a head-ach. Two or three weeks before this, ſhe had been twice bled. At 7 P. M. when her pulſe was 98, the tourniquet was applied to the left thigh. Half on hour afterwards, pulſe 89. She complains of vertigo, head-ach, nauſea, thirſt, and of pain about the uterus, ſimilar to that which precedes the menſes. The compreſſed leg was cold, while the other had a natural heat. The pulſe in the ham was ſcarcely to be felt. Theſe complaints about the uterus, and her thirſt, continued all night. The menſes appeared on the 6th, and remained for four days, in greater quantity than uſual. Their appearing ſo ſoon after compreſſion, leaves no doubt of their being produced by it.

EXPER. V. Jan. 5, 1776. Chriſtian Bay, 26, has been affected, for three months, with

with an amenorrhoea, attended with flatulence; pain of the head, ſtomach, and back; vomiting; and iſchuria. The ligature was applied at 8 P. M. when her pulſe was 96. In half an hour it was 120, and ſhe felt ſickneſs, and pains over the whole abdomen. An hour afterwards, her pulſe was 96. 6th, It was applied again. In half an hour, a pain in her ſtomach; and in an hour, ſickneſs, and a pain in the uterine region, were felt, as before the menſes; but they did not appear.

EXPER. VI. Nov. 23, 1778. Elizabeth M'Kenzie, 25, has been affected with amenorrhoea for ſix months. The tourniquet was applied to each thigh. About ten minutes afterwards, ſhe complained of a pain in the uterine region, ſuch as ſhe uſed to feel before the menſes appeared; and likewiſe of head-ach, dyſpnoea, and nauſea. The nurſe ſaid, that, after the application was finiſhed, ſhe found the urine bloody; but no menſes appeared. It was applied again, and her pulſe increaſed fifteen beats in a minute. She was afterwards cured by the powder of ſabine.

This

This application has, therefore, ſucceeded in one caſe only out of ſix, in which it was tried. But this is too ſmall a proportion, and not ſufficient to ſupport the character of any remedy. From the above deſcribed effects of compreſſion, it has the ſtrongeſt appearance of loading the uterus with blood. To judge from the ſenſations of the patient, it produces the ſame effects in the uterus as the approach of the menſes does. It has every appearance in its favour, yet it did not ſucceed. The uterus, I imagine, is oftener in too plethoric and inflammatory a ſtate, when this remedy will hurt, than in a ſtate of inanition. The good effects of venæſaction, eſpecially in the vena ſaphæna, of pediluvium, and of purgatives, are ſtrong proofs of this. From its effects, it would ſeem to be moſt proper in caſes of inanition and debility, as it can produce a local, without a general plethora; and yet we muſt, at the ſame time, freely own, that, in the only caſe where it ſucceeded, the patient was plethoric and inflammatory, which contradicts our reaſoning.

VENAE-

VENAESECTION.

Bleeding often ſucceeds in curing the amenorrhoea.

EXPER. VII. Dec. 6, 1774. Peggy M'Kay, 20, has laboured under this diſeaſe for nine months, attended by vertigo, fluſhing of the face, heat, pain of the head, temples, and back. Pulſe 118, and ſtrong. Fiat venaeſect. ad unc. viii. The blood was ſizy. 7th, Pulſe 124; ſhe complains of palpitation of the heart. 8th, Pulſe 100, and ſtill ſtrong. The head-ach and palpitation of her heart are eaſier. Rep. venaeſ. ad unc. viii. Blood rather more ſizy. 9th, The menſes appeared, and continued until the 12th.

EXPER. VIII. Feb. 29, 1775. Margaret Haig, 23, of a ſanguine habit, ſubject to hemoptoe and hyſteria, after a fever in November, had the menſes in very ſmall quantity, and at very irregular times; and ſhe complained of nauſea, hiccup, dyſpnoea, thirſt, cough, and pain in the ſide. Pulſe about 100. Fiat venaeſect. ad unc. x. Blood in a natural ſtate. March 2d, ſhe

complains of a pain in the left ſide. Her breathing is eaſier. Rep. venaeſect. ad unc. x. Blood very ſizy. 4th, Pulſe 106, and ſtrong. Pains eaſier. Rep. venaeſ. ad unc. viii. 6th, The menſes appeared, but they ſtopped on the 7th. 9th, The menſes returned again, and remained until the 11th.

EXPER. IX. Margaret Neilſon, Exper. III. after trying the rubia tinctorum, ſabine, compreſſion of the crural artery, and the tincture of hellebore, was bled for a ſevere ſtitch under the ſternum to the quantity of nine ounces, on the 11th of April. The blood was ſizy. The menſes appeared on the 13th, and continued for three days.

I could give many more caſes; but theſe are ſufficient to ſhow the utility of bleeding. The uterus ſeems often to be in an inflammatory ſtate, and attended with ſymptoms ſimilar to other topical inflammations, as ſizy blood, increaſed heat, redneſs of the face, ſtrength of pulſe, &c. In ſuch caſes, bleeding is the principal remedy; and, as it removes the plethoric ſtate of the uterus, and relaxes its fibres,

it gives the veſſels full play; ſo that their own action overcomes all reſiſtance, and the evacuation takes place. But it is only in the plethoric, where it can be of advantage. It is of no great moment from whence the blood is taken. The vena ſaphaena will, perhaps, empty the uterus moſt; but then the quantity is with difficulty got from it, and cannot be ſo well aſcertained.

SABINE.

The Sabine is infamous, for its ſtrong effects on the uterus. It is often uſed to procure abortion; and is ſaid to endanger the mother by the violent hemorrhagy which it occaſions. In many countries it is not allowed to be ſold, but by the order of a phyſician. It has been much uſed to promote natural birth, and is reputed a ſtrong emmenagogue, even when applied externally to the ſkin. Theſe facts ſuggeſted the uſe of it to me. Its bad effects might be ſhunned without difficulty, by giving a ſmall doſe. Authors mention a

drachm as the proper doſe. I gave generally but half that quantity, and have found it uſeful and ſafe.

EXPER. X. Jean Manſon, Exper. II. with whom the tincture of hellebore, and compreſſion had in vain been tried, took half a drachm of the powder of ſabine, twice a day. In four days the menſes appeared, and continued for two days.

EXPER. XI. Janet Dallas, 28, was obſtructed for ſix months, and attacked with head-ach, flatulence, acidity, indigeſtion, &c. Pulſe 68, and rather weak. She had taken a vomit, the elixir ſacrum, and pills made of the filings of ſteel and the extract of gentian, for ten days. Then ſhe was ordered a ſcruple of the ſabine twice a day. On the third day, the menſes appeared.

EXPER. XII. Elizabeth Graham, Exp. I. in emanſio menſium, after trying the filings of ſteel, the tincture of hellebore, compreſſion of the crural artery, and electricity, in vain, took half a drachm of this medicine twice a day. She continued it for ſeven or eight days; and each doſe raiſed

a

a pain in her ſtomach and belly; but no menſes appeared.

EXPER. XIII. Margaret Neilſon, Exp. III. took firſt a ſcruple and then half a drachm of it, twice a day, for five days. It excited ſevere pains in her belly, which ſhe compared to thoſe preceding the menſes. But no menſes appeared till repeated bleedings brought them.

EXPER. XIV. Elizabeth M'Kenzie, Exper. VI. had a ſcruple of this medicine, twice a day. The doſe was increaſed by degrees to a drachm. On the eighth day, the menſes appeared.

From theſe trials the ſabine appears to be a powerful remedy, as it ſucceeded in three of five caſes, or rather of four, as in Exper. XII. the diſeaſe withſtood every application. From Exper. XIII. it appears improper in plethoric habits; from Exp. XI. well ſuited to the debile. Theſe different effects in different caſes, ariſe from its ſtrong topical ſpecific ſtimulus.

RUBIA TINCTORUM.

The root of the rubia tinctorum, or madder, has always been uſed as a deobſtruent in the jaundice, dropſy, and ſcrophula. Tournefort ſays, in his Materia Medica, "that it ſtrongly provokes the courſes." Hence I was induced to try it in obſtructed menſes, and have diſcovered it, by repeated trials, to be the ſtrongeſt and ſafeſt emmenagogue with which we are acquainted. As this medicine is but juſt beginning to be known here, from the report of thoſe who have ſeen its effects when uſed in the clinical ward, I ſhall lay before the public a detail of my experiments.

EXPER. XV. June 6, 1770. Agnes Paterſon, 18, obſtructed for the two laſt periods, complains of ſickneſs, hot fits, flatulence, pains in her arms and loins, and tremors. Pulſe 88, and of natural ſtrength. She had an emetic. 8th, Cap. pulv. rub. tinct. drach. ſs. quater in die. 13th, The menſes appeared, and continued for two days,

EXPER.

EXPER. XVI. June 9. Margaret Alexander, 34, has been obſtructed for ſeven months. Since which ſhe has been attacked with hyſterical complaints and a ſettled melancholy, and has been, at times, furious. She was put on a courſe of the tartarus ſolubilis, without much effect. 27th, Cap. pulv. rub. tinct. ſcrup. ii. ter in die. 30th, The menſes appeared, and continued for four days. After this, her complaints abated by degrees. She was regular next period.

EXPER. XVII. March 3, 1774. Agnes Weir, 23, about five years ago, was expoſed to cold during menſtruation, on which the menſes ſtopped, and have never again appeared. She has ever ſince been ſubject to head-ach, nauſea, weight at her ſtomach, cardialgia, pain in her ſides and belly, laſſitude, fluor albus, thirſt, coſtiveneſs, want of ſleep, and dyſpnoea on motion. Pulſe 70, and weak. She took a vomit, and firſt half a drachm, then a drachm of the rubia tinctorum, four times a day. Her pulſe is not quicker, nor is her drought increaſed by it. 13th, The menſes appeared, and continued for more

than four days. At the ſame time next month, as ſhe did not menſtruate, it was again ordered. 21ſt, The menſes appeared, and in greater quantity than laſt time.

EXPER. XVIII. March 19. Margaret Stewart, 22, was obſtructed for two months, from expoſure to cold during menſtruation. She complains of head-ach, cough, pains in her breaſt and belly, ſickneſs, and coldneſs of feet. An emetic, and the tincture of hellebore were preſcribed in vain. She took the rubia tinctorum four times a day, for fourteen days. All her complaints went off; but the menſes did not appear.

EXPER. XIX. April 5. Ann Grant, 21, has had her menſes obſtructed for two periods, and in ſmall quantity for two years paſt, attended with head-ach, acidity, nauſea, flatulence, thirſt, coſtiveneſs, and vertigo. After vomits, laxatives, bark, and the ſalt of ſteel; ſhe took this medicine for four days only, as ſhe went out, finding herſelf free from the preceding ſymptoms. But the menſes did not appear.

EXPER. XX. November 26. Jean Gould, 26, has had an amenorrhoea for a year. She

She is affected with a pain in the region of the ſtomach increaſed on preſſure, cough, and vomiting of blood for twenty days. Pulſe 80, rather ſtrong. She was bled, cupped oppoſite to the ſtomach, and took the infuſion of tamarinds. December 3d, She was ordered half a drachm of it, four times a day, which was gradually increaſed to a drachm. During the uſe of it, her complaints became better. 11th, She feels pains about the uterus; and ſhe has a headach. 12th, The menſes appeared, and continued next day.

EXPER. XXI. December 9. Margaret Sommerville, 36, had been affected with amenorrhoea for four months; and with pain and ſwelling in the hypogaſtric region, vomiting, coſtiveneſs, and hyſteric fits. Pulſe 100. She took aſſafoetida for ſome days, without effect. 17th, Cap. pulv. rub. tinct. drach. ſs. ter in die. 19th, The menſes appeared this day.

EXPER. XXII. December 27. Ann Dunbar, 31, was delivered of a child in Auguſt laſt, ſince which time her menſes have not appeared. About two months after delivery, ſhe had a ſevere fever, and

ever

ever ſince ſhe has complained of head-ach, nauſea, vomiting, ſwelling and hardneſs about the ſtomach, ſevere pain in the back and left ſide, ſwelling and pain of her feet in the evening, fluor albus, and tremors. Pulſe 106. She was ordered half a drachm of the rubia tinctorum, four times a day. It was increaſed by degrees to a drachm. January 3d, She complained of a ſtitch in her right breaſt. The powders were ſtopped, and ſhe was bled five times. 13th, The medicine was repeated. 23d, She felt the ſame ſymptoms which precede the menſes. As ſhe had frequent vomiting, the powders were omitted.

EXPER. XXIII. January 14, 1775. Catharine M'Callum, 28, has had no menſes for three months. She is affected with nauſea, head-ach, cold ſweats, ſwelled legs, and pain in her back and arms. Pulſe 104, and of natural ſtrength. She took the ſabine for ten days, without effect; then a drachm of the rubia tinctorum, four times a day, for ten days, likewiſe without effect. Calomel, the filings of ſteel, extract of gentian, and other medicines were afterwards tried without ſucceſs.

EXPER.

EXPER. XXIV. January 31. Flora M'Bain, 18, has had an amenorrhoea for five months, attended by cephalalgia, tinnitus aurium, dulneſs of hearing, and pain in the uterine region. Pulſe 84. Fiat naeſect. ad unc. ix. Blood ſizy. She was ordered firſt half a drachm and then two ſcruples of this medicine, four times a day. 5th, Menſes appeared.

EXPER. XXV. February 21. Ann Moriſon, 23, came in with a fever, and had paſſed her uſual period of menſtruation for fourteen days. She took it to the extent of a drachm, four times a day, for a fortnight, without the menſes appearing.

EXPER. XXVI. March 11. Elizabeth Paton, 21, of a ſanguine habit, hath been obſtructed for a year, except at one period; and ſhe is at preſent affected with nauſea, loſs of appetite, pain and ſwelling of her ſtomach, weakneſs and pain in the ſpine, and ſwelling of the right ancle. She was bled, and her blood had a ſizy cruſt. She took a vomit. 13th, Cap. pulv. rub. tinct. drach. i. quater in die. It made her ſick. 17th, The menſes appeared.

EXPER.

EXPER. XXVII. November 30, 1776. Nelly Steele, 19, no menſes having appeared for nine weeks, is affected with flying rheumatic pains, and ſweatings. Pulſe 96. She was bled twice, and her blood was in a natural ſtate. December 9th, She took half a drachm of this medicine, which was increaſed to a drachm, four times a day. She had bliſters applied to the pained joints. 22d, The menſes returned.

EXPER. XXVIII. January 1, 1777. Elizabeth Cattanach, 36, hath been affected with amenorrhoea for three years. She had juſt recovered of a fever, attended with many of the ſymptoms of ſuppreſſed menſes, when ſhe began to take a ſcruple of the rubia tinctorum, four times a day: 8th, Menſes appeared.

EXPER. XXIX. March 2, 1778. Betty Edmunſon, 18, has had no menſtrual diſcharge for ſix months, ſince which ſhe has been affected with convulſive and hyſteric fits, twice or thrice a day. Theſe latter complaints the aether removed, which ſhe took to the quantity of four tea-ſpoonfuls, four times a day. 21ſt, Cap. pulv. rub. tinct.

tinct. ſcrup. ii. quater in die. It was increaſed to a drachm. She once took four doſes of it at once, without any ſenſible effects. 23d, The menſes appeared.

EXPER. XXX. February 24. Mary M'Nab, 22, has had amenorrhoea for ſix weeks. She came in with a fever, and her pulſe is ſtill above 100. Cap. pulv. rub. tinct. drach. i. quater in die. She took it for fourteen days; but no menſes appeared.

EXPER. XXXI. November 26. Tibby Moriſon, 25, has had an amenorrhoea for two periods, and for three before the laſt menſtruation. She had beſides an ophthalmia. She was twice bled. Some days afterwards ſhe took two ſcruples of this medicine, four times a day. The menſes appeared on the ſixth day, after ſhe had begun to take it.

EXPER. XXXII. December 8. Janet Maxwell was delivered of a child 2 years ago, which ſhe ſuckled and weaned laſt ſummer; but ſhe has never had her menſes ſince delivery. She began with half a drachm of it, which was increaſed to a drachm, four times a day. On the 15th day the menſes appeared.

EXPER. XXXIII. December 22. Rebecca Jack, 21, has been obſtructed for four months, and at each period ſhe was affected with haemoptoe for ſeveral days. She was bled, was ordered the vitriolic acid, and nitre. On the 29th, Cap. pulv. rub. tinct. drach. ſs. ter in die. She at laſt took a drachm, four times a day. On the 13th, when the haemoptoe was expected, the menſes appeared.

The preceding facts afford us the following concluſions:

1. Of nineteen caſes, in which it was tried, fourteen were cured, and five were not cured. The caſes of the former were, ſeemingly, worſe than of the latter; as, 1. The diſeaſe was of much longer ſtanding in thoſe cured, than in thoſe not cured. In Exp. XV. it was of two months; in Exp. XXI. of four months; in Exp. XXIV. of five months; in Exp. XXIX. of ſix months; in Exp. XVI. of ſeven months; in Exp. XX. and XXVI. of a year; in Exp. XXVIII. of three years; and in Exp. XVII. of five years ſtanding. Whereas, in thoſe not cured, in Exp. XXX. it continued ſix weeks; in Exp. XVIII. and XIX.

two

two months; in Exp. XXI. four months. It would appear from theſe facts, therefore, that the older the diſeaſe, the eaſier it yields to this medicine. 2. The only two haemorrhagic patients were amongſt thoſe cured, as in Exp. XX. and XXXIII.

2. Of the five where the menſes had not followed the exhibition of this medicine, in Exp. XVIII. and XIX. the patients were cured of the ſymptoms, and diſmiſſed ſeemingly well. In Exp. XXII. it was vomited, ſo it could be of no uſe. In Exp. XXIII. the patient laboured under hydropic complaints. In Exp. XXX. a fever had juſt preceded, and a conſtant quick hectic pulſe ſubſiſted, in which ſtate no medicine, probably, could have induced the menſes, and in which this was given to try its utmoſt powers. It would be of great moment to mark the ſituations in which this medicine does not ſucceed. With this view, I have conſidered the conſtitutions of the patients and the ſymptoms of the ſucceſsful and unſucceſsful caſes; but I have not as yet been able to fix on any general principles. Its ſucceſs does not depend upon the age of the patient,

ent; as three of theſe patients, above 30, were cured. It does not ariſe from the conſtitution or diſeaſe being inflammatory, or anti-inflammatory, which makes ſo great a difference in the effects of other emmenagogues; for of thoſe cured there were five, as in Exp. XX. XXIV. XXVI. XXXI. XXXIII. which were highly inflammatory; on the contrary, there were five, as in Exp. XVI. XVII. XXI. XXVIII. XXIX. where the caſes were of the anti-inflammatory kind. Of thoſe not cured there was one in Exp. XXII. in the former, and three as in Exp. XVIII. XIX. XXIII. in the latter ſtate. The others were betwixt the two ſtates. The anti-inflammatory caſes are, perhaps, in general, more numerous, as appears by the preſent liſt. Of this kind, therefore, there muſt, generally, be more cured, and more not cured, as has happened in our caſes.

3. The ſenſible effects of this medicine are ſcarcely evident. It once excited vomiting; but, as that happened once only, and, as ſuch patients often vomit naturally, that ſymptom might have been owing to the diſeaſe. It never quickens the pulſe.

It

It never increaſes the inflammatory ſymptoms. The ophthalmia was not worſe in the two ophthalmic patients. No haemorrhagy appeared, in either of the haemorrhagic caſes, after the medicine was given, though both ſituations appeared very improper for any emmenagogue. On the contrary, the heat, thirſt, and other complaints, abated, and the diſeaſe was cured. In ſuch caſes, therefore, it appears perfectly ſafe. It ſeems ſometimes to remove the ſymptoms, without exciting the menſes. In Exp. XX. the ſymptoms went off before the menſes appeared. Where it did not cure, it did no harm, but was of ſome uſe, as in Exp. XVIII. and XIX. It, therefore, appears neither to be a medicine of the phlogiſtic nor antiphlogiſtic kind.

4. I have always begun with half a drachm of the powder, then, in two days, I have given two ſcruples, and if that does not prove effectual in two or three days, a drachm, four times a day. It never lies heavy on the ſtomach. The powder, as the moſt ſimple preparation, was preferred to the infuſion or decoction, in which lat-

ter form it is given in caſes of obſtruction of the liver.

5. When it ſucceeds, the menſes appear from the 3d to the 12th day, and were not later in any of the caſes. I had given it twice to the 14th day, where it did not ſucceed. With ſuch powerful and ſometimes deliterious effects on other animals, it is ſurpriſing, that it ſhould operate ſo mildly on the human body; with ſuch gentle effects on the body in general, it is ſurpriſing, that it operates ſo quickly and powerfully on the uterus.

6. Its effects are accounted for, by theoriſts, from its aſtringency. But no other aſtringent is emmenagogue. Chalybeates indeed are the only inſtance of this kind. But theſe are ſtimulant as well as aſtringent. It would require ſtrong proof, that the ſame body is deobſtruent and aſtringent. Beſides, it has a ſweetiſh, but not a rough taſte; and does not turn black with the ſalt of ſteel, which ſhows it not to be aſtringent. It does not act as a tonic, as it is uſeful in inflammatory caſes; and, in Exper. XIX. it ſucceeded, when bark had failed. As it produces no

change

change in the vaſcular ſyſtem, or excretory organs; as it is good in oppoſite ſtates of the fluids; as its ſucceſs appears often on the ſecond and third day, its effects are probably produced on the nervous ſyſtem. It ſeems to poſſeſs a ſpecific topical ſtimulating power, by which it acts on the nerves of the uterus alone, as emetics do on the ſtomach, purgatives on the inteſtines, diuretics on the kidnies, &c. That appears the only way of explaining its action. Exper. XX. and XXXIII. ſeem convincing proofs of this theory, elſe it muſt have ſtimulated the veſſels of the ſtomach and lungs, and induced the hemorrhagies to which the patients had been ſubject.

7. From Exper. I. it appears, that the emanſio menſium is more difficult to be cured than the ſimple amenorrhoea. What has appeared may be reſtored; what has not, may be impoſſible. It generally, perhaps, ariſes from ſome preternatural conformation of the uterus, as in the following caſe.

Feb. 11, 1773. Catherine Innes, 18, had never menſtruated. Two years before

this, ſhe had been in the hoſpital with nauſea, ſwelling of the ſtomach, and vomiting; and ſhe was diſmiſſed cured. About three weeks ago, ſhe was affected with the former ſymptoms, purging, and loſs of appetite. Pulſe 76. After taking vomits, and rhubarb, ſhe was ordered aſtringents, the extract of gentian and filings of ſteel, columbo root, extract of campeachy wood, emetic tartar, lime-water, opiates, &c. But the looſeneſs continued, a fever came on, and ſhe died.

On opening the thorax, the right lobe adhered to the pleura and diaphragm, and was much inflamed. There was alſo a ſmall quantity of purulent matter found in the ſuperior part of the right lobe. In the abdomen, the liver was much larger than natural, and adhered to the diaphragm and peritoneum. The gall-bladder was diſtended with bile. The ſpleen was much enlarged, and adhered to the diaphragm and peritoneum. There was, on the ſurface of the ilium, and adhering to it, oppoſite to the umbilicus, a ſmall tumor of the meliceris kind, contained in a livid cyſt, and about the ſize and figure of a Turkey

Turkey bean. Many others of the ſame kind were found around it. At this place, the inteſtines adhered to one another, their cavities were much diminiſhed in ſome of theſe adhering places, and ſeemingly not larger than a gooſe quill. In the under part of theſe adheſions, there was a ſmall introſuſception of three fourths of an inch, above which the inteſtines were enlarged, in a ſlight degree inflamed, and diſtended with a quantity of faeces. Many of the meſenteric glands were enlarged, and ſcirrhous. The pylorus was thickened and indurated. The duodenum, internally, for almoſt its whole length, was covered with a thick black mucus, which adhered firmly to it. The uterus was ſmall in ſize, very hard, and contained, in its cavity, a ſmall quantity of purulent matter.

SECT. XIX.

Experiments upon ſome remedies uſed in the Herpes, or Lepra Graecorum.

There are no diſeaſes which more frequently occur in the hoſpital than the cu-

taneous, and none leſs reduced to order. To define and diſtinguiſh them properly, would be uſeful. There is one to be met with often, which may be called the Lepra Graecorum, or Herpes, where the ſkin is attacked with cruſty or ſcaly ſcabs, ſometimes dry, ſometimes ulcered, and generally diſpoſed in cluſters. I find many patients, in the waiting room, affected with this diſeaſe. They accuſe, as the cauſe of it, a diet of ſalted animal food, of fiſh, ſalmon and milk, a moiſt habitation, and expoſure to cold when heated; but they never attribute it to infection.

It attacks thoſe moſtly in the prime of life; for, of many patients in my report-books, all of them are between fifteen and thirty, excepting one of four, and one of fifty years of age. Of theſe, two thirds are men. Such a great proportion of men muſt be conſidered as a general law in this diſeaſe, and muſt depend on its nature. This fact ſhows that it ariſes neither from infection, to which women would be more ſubject than men, from their ſofter ſkin; nor from want of cleanlineſs, to which both are

qually

equally liable; but from greater errors in exerciſe, food, drink, &c.

Whether the eruption is dry, or humid and ulcerous, makes no diſtinction in the cure, which in general, is not difficult to be performed by proper internal medicines, except in that ſpecies where the colour is very white, which Celſus has long ago remarked. External applications of mercury and of lead will often make it diſappear; but then it generally recurs. This ſeems to prove it to be rather a general, than a topical diſeaſe. Let us view ſome of the remedies uſed in it.

CANTHARIDES.

Dr. Mead recommends the tincture of cantharides ſo ſtrongly, that it was proper to give it a trial.

EXPER. I. May 26, 1770. Elſpeth Robinſon, 32, nurſing her child, was affected, ten years ago, with a dry and ſcaly eruption, which has gradually increaſed, and now covers the greateſt part of her ſkin, excepting that of her face. The parts formerly affected are now ſound. She

never infected her huſband, children, or even the child at preſent at her breaſt, though that part has its equal ſhare of the eruption. She took firſt half a drachm, and then a drachm of the powder of crude antimony, four times a day, for ſixteen days, without advantage. She then uſed the hot bath; the decoction of ſarſaparilla which increaſed her urine; and afterwards ſhe got mercurius dulcis with ſulphur antimonii praecipitatum, and iſſues, by which her diſeaſe was much diminiſhed; but it ſtill continued on her legs and arms. Aug. 3d, Cap. tinct. canthar. gtt. v. bis in die, ex aq. font. unc. ii. 14th, Cap. gtt. viii. &c. Her urine is increaſed, and is ſometimes made with difficulty. Cap. gtt. xii. &c. 17th, Cap. gtt. xv. 18th, The eruption on her arms is better. She has frequent ſtrangury, and pain in the ſmall of her back. Rep. hauſt. add. mucil. gum Arab. unc. i. 20th, She has no ſtrangury. Rep. hauſt. ter in die. 24th, Her urine is increaſed. ℞. Tinct. canth. gtt. xviii. &c. Sept. 5th, The eruption is much better. 6th, ℞. Tinct. canth. gtt. xxii. &c. 8th, She was diſmiſſed almoſt cured.

EXPER.

EXPER. II. Iſabel Stevens, 24, an out-patient, has had a dry cluſtered eruption for three years. It had diſappeared after the uſe of mercury; but recurred. Cap. tinct. canth. gtt. xxviii. ter in die. This quantity proved diuretic. She continued it for ſome weeks; the eruption diminiſhed; but ſhe was not cured.

EXPER. III. Jan. 2, 1775. William Scarlet, 50, affected for ſix months, with a red ſcaly eruption, ſometimes dry, ſometimes wet, on his hips, and back part of his thighs, began with fifteen drops of the tincture, thrice a day, mixed with half an ounce of the mucilage of gum Arabic. On the 6th, the doſe was increaſed to twenty drops. 15th, His urine is much increaſed. The eruption is diminiſhed and drier. But he was obliged to give it up, as he had complained of ſevere gripes for ſeveral days.

EXPER. IV. Feb. 9, 1778. Thomas Livingſtone, 15, affected, for four years, with a white dry cluſtered ſcabby eruption, chiefly on his legs and arms, took mercurius dulcis and the ſulphur antimonii praecipitatum, the hot bath, and the de-

coction of ſarſaparilla; and the unguentum ſaturninum, nutritum, and mercuriale were applied, without ſucceſs. 24th, ℞. Tinct. canth. gtt. xx. mucil. gum. Arab. drach. ii. aq. font. unc. ſs. M. Cap. quater in die. He took it for eight days, during which, each doſe of the tincture was increaſed to thirty-five drops. It produced no viſible effects, nor any change upon the diſeaſe.

Hence we may conclude, 1. That this medicine alleviates the diſeaſe conſiderably; but in none of the caſes did it perform a complete cure, though it was continued for many weeks. This difference in the operation of medicines ought always to be made, though it is ſeldom done. In the incurable diſeaſes, it is of great moment to mitigate the ſymptoms; in the curable, it is of little uſe, as thoſe medicines which cure will always be preferred. I have given it in the pſora without any ſucceſs. 2. That it acts by its diuretic power. In the three firſt caſes, where the eruption was leſſened, this effect was produced. In the fourth, where it did no ſervice, the urine was not affected. I

have

have often obſerved this diſeaſe retire with a natural or artificial increaſe of urine. As this excretion carries off the ſuperabundant ſalts and oils, it is not improbable that the diſeaſe ariſes from too great an accumulation of them in the vaſcular ſyſtem; and that theſe, endeavouring to find their way, by the ſimilar excretion of the ſkin, irritate and ulcerate that part. 3. That the cantharides are apt to irritate and produce gripes in the inteſtinal canal, and that half an ounce of the mucilage of gum Arabic, mixed with twenty drops of the tincture of cantharides, is not always capable of correcting that quality. 4. That tincture of cantharides even in very ſmall doſes, affects the urinary paſſages, and produces ſtrangury; but that the mucilage of gum Arabic, prevents this effect.

CORTEX INTERIOR ULMAE.

Dr. Lyſons has recommended the inner bark of the elm, as a powerful medicine in all cutaneous diſeaſes.

EXPER. V. March 30, 1774. Ann Hiccenbottom, 17, was ſeized ten days ago with an eruption over her face, from which a thin fluid is ſeparated. Pulſe 100. ℞. Cort. inter. ulm. unc. iv. coq. ex aq. fontam. lib. iv. ad lib. ii. col. & cap. unc. iii. quater in die. 2d, Eruption drying. 8th, The decoction had no ſenſible effect. The eruption is much drier. 20th, Diſmiſſed cured. It may be doubted, whether the cure is to be attributed to the medicine, as it had no viſible effects, as it failed in all the following caſes, and as the diſeaſe was ſo recent.

EXPER. VI. December 17. Robert Stewart, 17, a baker, was affected, about five weeks ago, with an eruption, firſt on his hands, now on his inferior extremities and belly. It is ſcaly and white in moſt places. ℞. Cort. inter. ulm. unc. iii. coq. in aq. font. lib. iii. ad lib. ii. Cap. unc. iii. quater in die. 31ſt, The old ſcabs have diſappeared, but new ones appear. His urine ſeems increaſed. His body is more bound. Cap. unc. iv. pro doſ. which was afterwards increaſed to five ounces. 14th, A freſh eruption appears. The decoction

decoction was now given up, as it had had a fair trial for near a month.

EXPER. VII. March 14, 1776. James Brown, 28, a ſailor, affected for eight years with a dry ſcaly eruption on his extremities, and ſome parts of his trunk, has uſed, without ſucceſs, in different hoſpitals, mercurials, antimonials, ſalts, ſea-water, Harrowgate water, and ſulphur, which laſt rendered the diſeaſe worſe. He tried the hot bath, and the powder of crude antimony, to the quantity of an ounce a day, without advantage. 28th, He got the above medicine in the ſame manner, as mentioned before. It produced no viſible effect, except making his body more coſtive. This courſe was interrupted for four days, by a feveriſh ſtate. April 16th, The eruption, though drier, ſtill continues.

EXPER. VIII. Thomas Livingſtone, Exp. IV. took it for ſix days in the ſame manner. But the eruption appeared rather to be worſe on the laſt day.

Hence, its want of ſucceſs in the three laſt patients appears certain, and its ſucceſs in the firſt ſeems dubious. Even allowing

lowing it ſucceſs in that caſe, one cure out of four patients, is too ſmall a proportion to entitle it to much merit. It will ſeldom, therefore, be uſed, when we can always diminiſh, and, generally, cure the diſeaſe by other medicines.

VIPERA.

Vipers were much uſed and eſteemed by the antients, in all cutaneous diſeaſes. Morgagni, Mead, and De Haen, are of their opinion. Hoffman denies their effects in this way. I was very deſirous to be able to form ſome certain judgment in this diſputed point. But ſo little are they uſed here, that it was long before any could be procured in the ſhops, and then in ſmall quantity only.

EXPER. IX. Robert Stewart, Exp. VI. tried the decoction of the bark of the elm, mercurius dulcis and the ſulphur antimonii praecipitatum, and lime water internally and externally, which diminiſhed the eruption over his body, but left that on his hands as bad as ever. January 30th, ℞ Viperam unam. coq. in aq. font. lib. i.

ſs.

ſs. ad lib. i. & cola. Cap. unc. iv. quater in die. ℞. Carnem viperae poſt coctionem, contunde cum ſacch. alb. q. ſ. ut fiat elect. Cap. in die partitis vicibus. February 14th, after taking in this way twelve vipers, which were all I could procure, he was better, but was not cured.

EXPER. X. Feb. 10, 1778. Chriſty Aikin, 22, was affected with ſcaly ſcabs on many parts of her body, which diſcharged matter, and were attended with conſiderable ſwelling of the parts below. She was beſides affected with the ſcrophula. I preſcribed her the viper broth and electuary, as above, which ſhe continued for fourteen days, and was, at the end of that time, almoſt cured of the eruption; but the ſwellings, which ſeemed to be ſymptoms of the ſcrophula, ſtill continued. Hearing by accident of the nature of her medicine, ſhe would take no more of it. Broth of ſnails was ſubſtituted in their place, for ſome days; but it did not anſwer ſo well.

EXPER. XI. November 24, 1778. Ann Strayton, 15, covered ſince her infancy with a dry ſcaly eruption, got the decoc-

tion

tion of one viper, and the electuary, for fourteen days; and, at the end of that time, ſhe was diſmiſſed cured.

From theſe three caſes it appears, that vipers have good effects in this diſeaſe; and that, in Exper. IX. and X. the cure was proceeding, as faſt as could be expected, when the experiment was ſtopped, from a deficiency of vipers in the former, and a diſguſt in the latter at the medicine. Though the cure in both theſe was brought near to a termination, we cannot aſſert that that would actually have happened, eſpecially as in the latter caſe, I afterwards learned that the diſeaſe recurred, though mercurius dulcis and the ſulphur antimonii praecipitatum ſeemed to have completed the cure when ſhe was diſmiſſed. They appear, however, not to be ſo inſignificant a remedy, as Hoffman, and moſt modern phyſicians, eſpecially in this country, ſeem to think. I imagined that oyſters and ſnails would have ſupplied their place But the effects of the latter are not ſo powerful, as we learn from Exp. X.

SARSA-

SARSAPARILLA.

As ſarſaparilla is diaphoretic, and ſuppoſed to be demulcent, it was tried.

EXPER. XII. May 9, 1769. James Knight, 22, was affected with a dry eruption a year ago on his head, then on his body, and for ſome months paſt on his extremities. His legs are ſwelled. Pulſe 68, and weak. Cap. dec. ſarſap. lib. ii. in die. Fiant fonticuli duo, unus in brachio, alter in crure. 24th, His urine has been much increaſed for ſome days; and, for theſe two days, he has felt it hot and painful. The eruption is better; and the ſwelling of his legs is leſs. June 19th, His urine is always in great quantity. The eruption is almoſt gone. 27th, His ſkin is quite clean. The iſſues may claim a ſhare in the cure.

EXPER. XIII. May 12. Agnus M'Donald, 16, affected with a dry ſcabby eruption for two years, took gum guajac, crude antimony, and had an iſſue, without effect. He was ordered a bottle a day of the decoction of ſarſaparilla, for twelve

days, without any alteration in his complaints. He was afterwards cured by mercurius dulcis and ſulphur antimonii praecipitatum.

EXPER. XIV. Thomas Livingſtone, Exp. IV. took it for ſix days, without any good effect.

I have often tried it, along with other medicines, which failed; ſo that its powers are not much to be depended upon.

MERCURIUS DULCIS AND SULPHUR ANTIMONII PRAECIPITATUM.

This compoſition was firſt propoſed in the Medical Eſſays by the late Dr. Plummer, and has been much uſed ſince that time in all cutaneous defoedations.

EXPER. XV. Agnus M'Donald, Exper. XIII. after the decoction of ſarſaparilla had failed, on June 17th, took the above medicines in the following formula; ℞. Merc. dulc. ſulph. antim. praec. āā ſcrup. i. mic. pan. q. ſ. fiat maſſ. divid. in pil. No. x. Cap. pil. ii. mane & veſper. 21ſt, The eruption is better. He ſweats, and his body is looſe. Cap. pil. iii. mane

&

& veſp. July 1ſt, The medicine purges, but does not ſweat him. The eruption is drying faſt. 15th, His urine is much increaſed of late. Diſmiſſed cured.

EXPER. XVI. July 15, 1770. William Johnſtone, 36, has had a ſimilar cutaneous eruption for three years. ℞. Merc. dulc. ſulph. ant. praec. aa gr. iv. conſ. roſ. q. ſ. fiat bol. cap. h. ſ. 30th, It produced nauſea, ſweat, and a little ſpitting. 6th, His bolus was ſuſpended for ſome nights, and then increaſed to ſix grains of each, and given morning and evening. He uſed the hot bath along with it. Theſe great doſes of this medicine ſweated him, and kept his body open. On the 14th, he began to be thirſty and reſtleſs, his tongue was white, and his pulſe 104. Thus large doſes, though they do not ſalivate, are capable of producing a feveriſh ſtate.

EXPER. XVII. Nov. 29, 1774. Mary Scot, 24, labouring under a dry eruption for a month, took two grains of each, morning and evening, for three weeks. They produced nauſea and a gentle moiſture of her ſkin, and cured her.

EXPER. XVIII. Robert Stewart, Exp. VI. before he took the viper-broth, had been under a courſe, for twelve days, of this medicine. It brought on a ſalivation; but it did not carry off the eruption.

EXPER. XIX. Dec. 27, 1776. James Arbunkle, 19, has had, for five weeks, an eruption of puſtules, with white ſcabby heads. He took two grains of each, morning and evening, along with the hot bath. He ſweated each night, and his body was open. He was cured in ſeventeen days.

EXPER. XX. Thomas Livingſtone, Exper. VIII. took the above quantity for ten days, without any benefit. It purged him.

EXPER. XXI. March 3, 1778. Malcolm M'Culloch, 26, has his forehead and cheeks covered with an elevated yellow ſcab. He took the ſame doſe for three weeks. It produced a gentle ſalivation. At the end of this time, his diſeaſe ſeemed to be cured; and he was diſmiſſed. But it returned in a fortnight, and was again removed by a ſeton in his neck, ſulphur antimonii praecipitatum, to the quantity

of

of ſeven grains, at bed-time, and mercurial ointment was applied to the affected parts.

EXPER. XXII. Feb. 9. David Simpſon, 27, with a dry hard eruption on his hands, was cured by this medicine in eighteen days. It produced a moiſture on his ſkin.

EXPER. XXIII. Chriſty Aitkin, Exp. X. had the remaining eruption carried off by this medicine. But I was told that the diſeaſe afterwards recurred.

From the above experiments, the following concluſions may be drawn:

1. This combination appears to be a very powerful remedy, as it cured ſeven out of nine patients, which is a very reſpectable proportion of thoſe cured, to which few medicines can attain. Beſides, many of them had been ill for years. The good effects are not only owing to the mercury alone, but to the ſulphur of antimony; as in Exp. XXI. when the former was uſed alone it ſeemed to be of conſiderable uſe.

2. This medicine rarely produces nauſea. It opened the body in nearly the half of the patients, and was attended with a moiſture of the ſkin each night, in a great

number; and it was often accompanied with an increaſe of both theſe evacuations. A gentle ſpitting was excited in two, and a ſalivation in a third. It may ſeem ſurpriſing that ſuch a doſe of mercurius dulcis does not always ſalivate. But this is owing to the peculiar property of ſulphur, when combined with mercury; as the former not only prevents ſalivation, but puts a ſudden ſtop to it when already begun. If the two are well rubbed together, this effect of ſulphur will be more certainly promoted.

3. This compoſition produces the good effects mentioned. 1. By its diaphoretic powers. The ſulphur of antimony directs the mercury more to the ſkin, and the preceding nauſea, when it happens, makes this effect yet more powerful. Hence, in the two caſes not cured, the ſkin was not affected, though in one there was a looſeneſs, and in the other a ſalivation produced. Its diaphoretic effects ſeem moſt powerful. 2. By the ſpecific and antacrid powers of mercury. The evacuation, in ſome of the caſes, ſeemed too gentle to be ſuppoſed alone to cure the diſeaſe.

4. I think that this medicine is more properly exhibited in the form of a bolus, as we can alter the proportion at pleaſure, than in that of pills, the form in which I firſt gave it, and in which it ſtands, at preſent, in the Edinburgh Diſpenſatory.

5. The hot bath aſſiſts the operation of this medicine much, as it ſoftens and opens the ſkin, and gives a freer paſſage to the mercury. A great quantity of ſcales always came off after bathing. Whether the hot bath will cure this diſeaſe of itſelf, I cannot ſay.

6. Iſſues are properly conjoined with it, as they give the ſpeedieſt vent to all cuticular acrimony. If its ſeat is in the cellular membrane, it has an eaſy egreſs by them. I have found them excellent cures in all defoedations of the ſkin. As they do not alter its texture, this is a further proof that the diſeaſe is owing to acrimony ſubſiſting in the fluids.

ACIDUM VITRIOLICUM.

The vitriolic acid has been much extolled in Germany for ſome time, in the cure

of all cutaneous defoedations, and eſpecially in ſuch as the preſent diſeaſe. It was, therefore, proper to try its powers.

EXPER. XXIV. Nov. 23, 1778. David Bontrom, 23, has been, for three years, affected with a cutaneous eruption of this ſort. It is dry on his arms, but diſcharges a thin foetid matter on his belly. He had ſome degree of fever with it. He took eighty drops of the ſpiritus vitrioli tenuis mixed with the mucilage of gum Arabic, in the day, which generally produced two looſe ſtools. He continued it for eighteen days. During its uſe, the eruption became ſomewhat drier; but he was not cured by it. He was afterwards cured by the preceding medicine, and by the decoction of the ſarſaparilla.

EXPER. XXV. Nov. 24. Anne Strayton, Exper. XI. was ordered the ſame medicine, in the ſame form and quantity, for eleven days. It ſeemed, at firſt, to make her ſkin ſofter; but the eruption was not better. She was cured by vipers.

In both theſe caſes, this medicine had a fair trial; and it was exhibited in greater doſes than could have been done without the

the mucilage of gum Arabic; and yet the diſeaſe was not cured by it, while it was removed by other internal medicines. Its effects do not, therefore, appear to be very powerful. When it does cure, I ſuſpect it is as a laxative, which it always proves in great, or in often repeated doſes.

SECT. XX.

Experiments upon the Vermifuge Effects of the Spigelia Marylandica.

There is no diſeaſe which is accompanied with a greater variety of ſymptoms than that occaſioned by worms in the inteſtinal canal; and in none do we ſtand more in need of a certain diagnoſtic. The ſymptoms of worms, hitherto relied on, are common to a multitude of diſeaſes. Loſs of appetite, acidity, and acid eructations, pains in the abdomen, alternate bound and looſe body, ſlimy and putrid ſtools, grinding of the teeth, and the erratic fever, ariſe from an increaſed quantity of mucus in the inteſtines. The dull pain and ſwelling of the belly, purging, atrophy, hectic fever, pale colour,

and foetid ſtools, are occaſioned by ſcirrhous or ſcrophulous tumors of the meſenteric glands. This appears from Lieutaud's diſſections *. The dry cough, purging, flushing of the face, fever, &c. belong to dentition. But what is ſtrange, the hydrocephalus, though in its cauſe and ſeat ſo very different, reſembles this diſeaſe the moſt. In the former, the cheeks are red, ſudden calls of hunger are felt, and there are frequent ſtartings. So near do they approach, that the hydrocephalus is even accompanied with pains of the belly and joints, grinding of the teeth, and picking of the noſe. In five or ſix of my patients, in whom the hydrocephalus was aſcertained by diſſection, there was a conſtant grinding of the teeth, and picking of the noſe. Dr. White was among the firſt who marked theſe ſymptoms in the hydrocephalus. They are alſo to be found in Lieutaud's diſſections. I ſaw them in a hemiplegia, which aroſe from an effuſion of two ounces of blood on the

* Vid. in Laeſionibus Abdominis, obſ. 124. 226. 527. 529. 537.

medulla

medulla oblongata. So like are theſe two diſeaſes, that the hydrocephalus is every day miſtaken for worms, though the ſlow pulſe, and dilated pupil, attending the advanced ſtate of the former diſeaſe, ought to remove all uncertainty. Nor do I agree with ſome, in directing all our intentions to the deſtroying of worms, as by that method we never ſhall diſcover a cure for the hydrocephalus.

A certain diagnoſtic ſymptom of worms, therefore, has hitherto been a deſideratum in practical medicine. Such a one I diſcovered, about ſixteen years ago, which was not mentioned by any author; it is, an oedematous ſwelling of the alae narium, upper lip, and often of the contiguous parts of the cheeks; and the apertures of the noſtrils are diminiſhed, and at laſt they are not half their natural ſize. This diagnoſtic is certain, as I have truſted chiefly to it ſince that time, and it has faithfully ſerved me. It is uſeful, as the patient is not always able, from infancy, to tell his complaints. For, from long habit, I can diſcover them, and point out the diſeaſe to the gentlemen in the waiting-room,

room, without aſking a queſtion. It is not the firſt ſymptom that appears; but it is always ſeen ſoon enough for the cure.

The Spigelia Marylandica, or Indian Pink, in a former edition of Linnaeus's works, called Lonicera Marylandica, was diſcovered, about the year 1740, to the Europeans, by the Indians, as a vermifuge medicine. It is the root of a plant that grows in the low grounds of South Carolina. As no experiments have yet been publiſhed here on this medicine, I will collect thoſe which have, for ſome years, been made in the clinical ward.

EXPER. I. May 15, 1770. Alexander M'Leod, 5, has had a ſevere looſeneſs for four months, with ſlimy ſtools, tumefaction and pain in his belly, head-ach, flushing of his cheeks, picking of his noſe, grinding of his teeth, ſwelling of his upper lip and noſtrils, thirſt, and white tongue. He has alſo had the chin-cough for three weeks. ℞. Pulv. rhei gr. xii. merc. dulc. gr. i. M. cap. h. ſ. ℞. Pulv. ſpigel. Maryl. gr. x. cap. mane & veſpere. 19th, He paſſed a round worm. 23d, The purging ſtill continues. The rhubarb

barb was repeated. 28th, The worm complaints are better; but the purging ſtill continues. Rep. pulv. rhei. June 3d, The worm complaints are gone, ſo the ſpigelia was given up. The bark carried off the remaining chin-cough and looſeneſs.

EXPER. II. May 16. Chriſtian M'Alaſter, 27, labouring under a tertian, has paſſed ſeveral worms, within theſe five months, and at preſent has pains in her belly, ſwelling of the upper lip and noſtrils, grinding of her teeth, and picking of her noſe. She had a doſe of rhubarb and mercury. After which, on the 22d, ſhe took half a drachm of the Indian pink, thrice a day. It kept her body conſtantly looſe. 25th, She paſſed a round worm. The powder was repeated four times a day. 29th, She paſſed two worms, and the ſymptoms are much diminiſhed. The lip and noſe are leſs ſwelled. The Spigelia was increaſed to two ſcruples each doſe. June 2d, All the worm complaints are gone, excepting a pain in the belly, of which there is no farther mention, after giving up the medicine.

EXPER.

EXPER. III. July 31. Suſan M'Intoſh, 5, has been affected for two years with pains in her belly, feveriſh fits, nauſea, ſickneſs, purging, grinding of the teeth, picking of the noſe, and thirſt. The noſtrils are ſwelled, and ſore when preſſed. She took a vomit. Cap. pulv. Spigel. Maryl. gr. x. mane & veſp. 6th, Appetite better. 11th, She has no complaints. 14th, Her body is always looſe. Diſmiſſed cured.

EXPER. IV. Aug. 29. James Crichton, 20, has paſſed ſome worms, and is affected with pain of his belly, and uneaſy gnawing in his ſtomach in the morning. He took half a drachm of this medicine, four times a day. It did not open his belly, ſo he got ſome laxative pills. September 5th, The pains of his belly are gone.

Exper. V. March 21, 1774. Robert Chriſtie, 5, picks his noſe, grinds his teeth, and has a pain and ſwelling of his belly, craving for food in the morning, and his lip and noſtrils are ſwelled. Pulſe 130. He began with four grains of it each night, which were gradually augmented

mented to eight grains. It purged him twice or thrice each day. April 4th, All his complaints are gone.

EXPER. VI. January 12, 1775. Katharine Millar, 6, affected with ſevere cough for three weeks, and a hard and painful ſwelling of her belly; but ſhe neither grinds her teeth, nor picks her noſe. Pulſe 138. Her upper lip is rather ſwelled. After a doſe of rhubarb and calomel, ſhe began to take eight grains of this medicine, firſt once, then twice a day. Her belly was always looſe. 25th, Diſmiſſed cured.

EXPER. VII. Feb. 17, 1776. David Gordon, 7, of a ſcrophulous habit, has, for three weeks, been affected with headach, pain, and ſwelling of his belly, difficulty in walking, remarkable ſwelling of his upper lip, alae narium, and parts around, which appeared eight days ago. He paſſed three worms after a doſe of ſenna taken ſome days before this. Pulſe 108. Cap. pulv. Spigel. Maryl. gr. vii. bis in die. 21ſt, His body is bound. Rep. pulv. ſpigel. add. pulv. rhei. gr. iv. This kept the belly looſe, and brought off many ſcybalae. 24th, The ſwelling of his face

and

and belly is much leſs. He paſſed, laſt night, ſtools very foetid, with apparent pieces of worms. 26th, The ſwelling of his upper lip is gone; and he paſſed three worms.

EXPER. VIII. Nov. 25, 1776. Margaret Telfour, 10, not ſcruphulous, affected with ſevere pains of the abdomen at different times of the day, gnawing at her ſtomach, fluſhing of her face, and ſwelling of the alae narium and upper lip; which ſymptoms have continued for a year. She picks her noſe ſometimes, but never grinds her teeth. She has paſſed ſeveral worms. Cap. pulv. Spigel. Mar. gr. x. bis in die. December 1ſt, Her complaints are gone. The medicine always purged her.

From the above experiments, it appears;

1. That this is an effectual and valuable vermifuge medicine, and that, in eight caſes, in which it was given, it always carried off the ſymptoms occaſioned by worms.

2. That worms came away in three of the caſes, but none in the other five, though

though the ſymptoms equally retreated in the latter. Theſe animals muſt often be diſſolved by putrefaction, along with the faeces in the large inteſtines.

3. That it takes ſometimes ſix, ſometimes eighteen days, to remove the ſymptoms produced by worms.

4. That, in all the caſes, two excepted, its exhibition was attended with looſeneſs and gripes. But that, in none, not even in thoſe caſes where the body was bound, did it produce vertigo, dimneſs of ſight, or convulſions, as we have been told; nor did it, though given in conſiderable doſes, excite any of the effects of narcotic poiſons. Perhaps theſe effects may attend it when recent, and they may be corrected by keeping.

5. That children of eight years of age may take ten grains, twice a day; and adults may go the length of half a drachm, four times a day, with ſafety.

6. That it is ſafe and uſeful in the worm fever, as that was the ſtate of ſome of the above patients.

7. That the ſwelling of the noſtrils and upper lip, is a more conſtant worm ſymp-

tom than any of the reſt; that it accompanies the diſeaſe, where there is no ſuſpicion of ſcrophula, and retires, with the worm ſymptoms, when they ariſe in ſuch a habit, as in Exper. VII; and that, where this ſymptom, which is often not to be obſerved, appears in the ſcrophula, it probably ariſes then from worms, which frequently accompany this diſeaſe, as in the above experiment.

SECT. XXI.

Experiments upon the Deobſtruent Effects of Mezereon.

The Mezereon is claſſed among the plants of an acrimonious, cauſtic, and poiſonous nature. The bark of the root has been moſt uſed; but, at preſent, the woody part of it is preferred by ſome. Its bark ſeems, however, more acrimonious to the taſte.

The effects of a decoction of its root, in curing venereal nodes, have been long eſtabliſhed. Theſe ſeldom diſappear under the mercurial courſe which cures the venereal diſeaſe. If they ariſe from a ſwel-

ling of the bone, no medicine, perhaps, can reſolve them. But, when they proceed from a thickening and tumor of the perioſteum, mezereon has been found to ſucceed. My report-book for the ſummer 1769, contains ſome caſes of this kind. As the deobſtruent effects of this root ſeemed, from theſe caſes, ſo powerful, I ſoon conceived hopes of carrying them farther, and of finding it as efficacious a medicine in other obſtructions remaining after the cure of the venereal diſeaſe.

EXPER. I. July 1, 1769. ----------
18, who never menſtruated, was ſeized, about three months ago, with pain in the throat, which has continued ever ſince, attended with conſiderable ſwelling, inflammation, and ulceration of the amygdalae of the right ſide. She has a running from the vagina, and ficae about the anus. She took the mercurius praecipitatus cineritius, which made her ſpit a little, till the 17th of Auguſt, when all the venereal ſymptoms had, for ſome time, diſappeared. But ſtill the amygdalae were as much ſwelled as ever. ℞. Rad. mezer. drach. ii. coq. in aq. font. lib. iii. ad lib. ii.

Cap. partitis vicibus in die. Sept. 7th, The ſwelling is almoſt gone, and ſhe was diſmiſſed. Here the decoction reduced a ſcirrhous ſwelling, which mercury could not do.

EXPER. II. July 14. Ninian Cowan, 23, has been affected for a year with gonorrhoea, chancres, ulcers of the throat, and a ſwelling of his teſticle, which had appeared at firſt, had gone off, and returned about ſix weeks ago. All his ſymptoms were cured in five weeks, by the mercurius praecipitatus cineritius, except the tumor of his teſticle, which ſtill remained. He was put on a courſe of decoction of mezereon. In three weeks the ſwelled teſticle was as ſmall as the other.

Thus this root appeared to be a powerful deobſtruent in all venereal tumors, of the ſcirrhous kind, where mercury had failed. Theſe facts naturally led me to conjecture, that its powers might be extended, beyond the curing of venereal ſcirrhous tumors, to that of other obſtructions, where medicines had hitherto failed,

failed, as mercury is the moſt powerful deobſtruent yet known.

EXPER. III. June 8, 1769. Agnus M'Kay, 39, after he was cured of a ſciatic, diſcovered a hard ſcirrhous tumor in the right pectoral muſcle, which had appeared two weeks ago. He was ordered two pints of the decoction of the mezereon, a day. It made him very ſick, took away his appetite, and increaſed his urine; but it neither affected his body, nor produced any moiſture on his ſkin. In four days the tumor was much leſs; and in eight days, it was entirely gone.

EXPER. IV. Auguſt 9. Margaret Anderſon, 41, about ten weeks ago perceived below the thyroid cartilage, on both ſides of the trachea, a tumor, which has gradually increaſed to the ſize of an egg, is moveable, and hath affected her breathing for ſome time. Her pulſe and menſes are regular. She has no appetite; and ſhe ſleeps ill. She was put on a courſe of this medicine; and a poultice made of the decoction and of meal was applied to the tumor externally. 30th. It was

reduced to half its ſize, and ſhe was diſmiſſed.

EXPER. V. June 22. Peggy Todd, 19, was an out patient, and came to the ward at ſtated times. She had, for a year, on the right and back part of her neck, a large moveable tumor, which ſhe thought was occaſioned by carrying a child on that part. It appeared in the courſe of the cucullaris muſcle; and, though we had no certainty whether it was glandular or muſcular, yet the latter appeared more probable. It had gradually increaſed without pain; and was ſix inches long, three broad, and about two high. She was otherwiſe in good health. Internal medicines were deemed inſufficient for the cure, and an operation alone was thought admiſſible. It appeared, however, a proper caſe for trying the powers of this medicine. She was, therefore, ordered the decoction as above; and a fomentation, and poultice made of it, were applied externally. 30th, The tumor is leſs. The decoction has no ſenſible effect. July 6th, The tumor is diminiſhed in all its dimenſions. 22d, It is ſtill hard; but is much fallen, eſpecially

cially in height. She continued the remedy without any peculiar effects on the reſt of the body, till the 20th of October, when the tumor was no bigger than a cheſnut. Thinking herſelf almoſt cured, ſhe gave over the medicine.

EXPER. VI. June 9, 1770. John Goodbrand, 28, perceived, about 6 months ago, a ſwelling of the right parotid gland, and, two months after, another of the left. The right is about two inches long, and an inch broad; the left is about an inch and a half long, and an inch broad. They are both painful, and the left alone is moveable. His ſaliva is conſiderably diminiſhed in quantity; but his deglutition is not affected. His pulſe is natural. He was put on a courſe of the mezeron. July 1ſt, The ſwelling of the right ſide is leſs and ſofter. The decoction ſometimes produces a nauſea. 26th, Swelling of the right ſide much leſs; that of the left continues the ſame. Diſmiſſed.

EXPER. VII. February 21, 1776. James Nielſon has had a ſcirrhous ſwelling of the right parotid gland, for ſome days. After taking ſome medicines for a purging, he

began the decoction of the mezereon. It kept his body open, and ſweated him. March 1ſt, The ſwelling gone.

Thus the mezereon appears to poſſeſs deobſtruent powers, ſtronger than any body yet known, as it reduced ſcirrhous ſwellings, which had appeared incurable; and as it cured many of them after a courſe of mercury had failed. This is a diſcovery of the greateſt moment in medicine, as a body poſſeſſed of ſuch effects was rather to be wiſhed for than expected.

In this field its limits muſt, however, be very narrow; as many of the veſſels, eſpecially in the centre of the tumor, will ſoon coaleſce, be effaced, and thus rendered incapable of being reſtored to their natural ſtate. Hence, its operation often goes a certain length only; and often it can do nothing towards the cure. Its effects are moſt conſpicuous in the recent; perhaps, too, in the muſcular tumors. I have tried it in one caſe of ſcrophulous ſwellings; but without ſucceſs.

It ſeems to act by a general ſtimulus, as its taſte is acrid, as it is of the acrimonious claſs of bodies, and as it excites nauſea,

nauſea, and ſometimes ſweating and purging. Although it does not quicken the pulſe, yet it may ſtimulate the ſmaller veſſels into quicker action, by which power alone the obſtruction can be removed.

We found that two drachms of it to the bottle of water is a ſufficient doſe. When half a drachm more was added, it produced too great ſickneſs.

SECT XXII.

Experiments upon the Effects of the Verbaſcum in Diarrhoea.

Botaniſts differ about the ſpecies of this plant that is to be uſed. Some recommend the yellow, others the white mullein. The white, or Cows Lungwort, is the one generally preferred, and which was uſed in the following experiments. Its taſte is a little rough, though it is not aſtringent. It has been for ſome years, much uſed abroad, eſpecially in Italy, as a pectoral, in decoction, under the name of *Bouillon blanc*, which name it gets from an addition of ſome white meat, as the decoction

coction of it differs not in colour from that of other vegetables. As Schroder recommends it in diſeaſes of the breaſt, I tried it in conſumptive caſes in the year 1774, in vain. It was again tried in 1778, in two caſes of phthiſis; but without ſucceſs. So that, whatever effect it may have in ſimple coughs, it did not ſeem to abate the cough, or ſymptoms in the ulcered lungs, though in one of theſe the ulcer appeared to be open.

As it had, long before that time, been recommended to me as a medicine uſeful in confirmed diarrhoeas, by a gentleman who had taken it himſelf in ſuch a ſituation; and as it is mentioned by Schroder, as of advantage in pains of the belly, I thought it worthy of a trial.

EXPER. I. May 13, 1769. Joſeph Banbrook, 26, had been ſeized with an ague three years ago. It continued two years, and then ſtopped. He ſoon felt a fulneſs and pain under the ſhort ribs of the right ſide, ſtretching to the left; and about ſix weeks afterwards, he was ſeized with a flux, which has continued ever ſince, attended with about nine watery ſtools a day, without

out

out gripes. He has had a cough for ſome weeks, with much groſs, yellow, and ſaltiſh taſted expectoration, but without pain, cold fits, or nocturnal ſweats. His breathing is difficult, eſpecially during exerciſe. The white of his eyes and his ſkin are yellow. His belly is a little ſwelled; but no fluctuation can be felt in it. He lies eaſieſt on his right ſide. He has no pain in his right ſhoulder. Pulſe from 112 to 120. Cap. pulv. rhei torrefact. drach. ſs. h. ſ. ℞. Fol. verbaſc. unc. ii. coq. in aq. font. lib. iii. ad lib. ii. & cola. Cap. unc. iv. 3tia quaque hora. 20th, He was ſeized with a natural vomiting, for which he took a vomit. 20th, The diarrhoea abated; and the pain and ſwelling about the liver is leſs. After this the purging gradually diminiſhed, the pain and fulneſs of the ſide went off, the ſwelling of his belly diminiſhed, and on the 5th of June his purging diſappeared, though his inteſtines continued weak, and eaſily irritated by medicines, even of the tonic kind.

This was a bad caſe, as the diarrhoea had laſted for twelve months, had weak-

ened the inteſtines much, and had reduced him to extreme emaciation. Beſides, there was an affection of the liver, from the pain and fulneſs of the right ſide extending to the left, from the jaundice, and from his lying eaſier on the right ſide, as the ligaments of the liver are too much ſtretched when the patient lies on the left. It appeared rather to be an obſtruction than ſuppuration of that viſcus, as he had no ſweating, nor cold fits, and the pulſe was leſs quick at night than in the morning. The cough, though attended with groſs expectoration, ſeemed to ariſe moſtly from the ſwelled liver, as he had no pains in his breaſt, or other hectic ſymptoms. The verbaſcum was ordered for the purging and cough, both which it removed.

EXPER. II. July 11. Daniel Duncan, 19, had been affected, for four weeks, with ſevere purging, gripes, and teneſmus, and paſſed ſome blood for the firſt week. He ſweats every night. Pulſe 108, and of natural ſtrength. He was bled, took a doſe of rhubarb, and the decoction of verbaſcum as above. 18th, The purging is almoſt gone; and he was diſmiſſed.

But,

But, in a fortnight, he relapſed, and returned. There was no more verbaſcum in the houſe, a little only being provided for my uſe; and none of it could be procured in the ſhops, as it was not then a diſpenſatory medicine.

EXPER. III. Dec. 16, 1774. Elizabeth Mills, 43, has been affected with a diarrhoea for a fortnight, attended with ſevere pains. Pulſe 98. After a vomit, I ordered the decoction of this plant, with an ounce of it only, to the two pound of water. In two or three days, the purging diſappeared; but the pains continued for ſeveral days, and were removed by the caſtor oil.

EXPER. IV. Jan. 16, 1776. Robert Taylor 60, had had a purging for three weeks, attended with ſevere pains. He took a vomit, ipecacuanha in ſmall doſes, and colombo root; but the diarrhoea continued. 29th, He was preſcribed two pounds of the decoction of this plant each day. The ſtools became natural, the pains went off, and on Feb. 4th, he was diſmiſſed cured.

From

From theſe experiments, it appears, that a decoction of this plant is uſeful in diminiſhing or ſtopping diarrhoeas of an old ſtanding, and often in eaſing the pains of the inteſtines. Theſe acquire a great degree of irritability; and the ordinary irritating cauſes, aliment, bile, diſtenſion from air, keep up a quicker periſtaltic motion. This is obviated by the emollient, and perhaps gentle aſtringent qualities of this plant.

But, beſides theſe, it ſeems to have ſome anodyne quality. It eaſes the pains of the inteſtines; is injected in a teneſmus into the rectum with advantage; and is often of benefit when applied externally to the piles. Linnaeus ſays, that, when made into a paſte with flour, and thrown into the water, it ſtupifies fiſhes, ſo that they may be taken with the hand. If anodyne, it may act chiefly by that quality.

Though, from the ſcarcity of the plant in the houſe, an ounce only of it to the two pounds of water was, in theſe experiments, generally uſed; yet I think that that proportion is too little, and would rather recommend two ounces.

SECT.

SECT. XXIII.

Experiments upon the Antihemorrhagic Effects of the Cucurbitulae ſine ferro, or Dry Cupping.

This application was much uſed by the antients; and, though ordered, at preſent, in pains of the head and breaſt, is leſs in practice than it ought to be in many diſeaſes, eſpecially in the hemorrhagic. Hippocrates recommends it much in the menorrhagia, and orders the application to be made to the breaſts. "Mulieris menſes "cohibere ſi velis cucurbitam quam maxi-"mam mammis appone." This obſervation appeared to me, on ſeveral accounts, to carry probability with it; ſo I tried that application.

EXPER. I. Dec. 3, 1774. Sarah Black, 42, has been ſubject, for a year, to a diſcharge of blood from the uterus and to fluor albus, which alternate. She tried gum olibanum and gum maſtic in pills, the elixir of vitriol, the tincture of roſes, cold water with a little vinegar injected into the uterus,

uterus, balſam of capaiba, ſalt of ſteel, opiates, and lime water, without advantage. Jan. 6th. She has loſt, ſince laſt night, two pounds of blood. The cupping glaſſes were applied to each mamma at noon; and the diſcharge ſtopped in the evening. She continued well for three days, and then began to take lime-water and gum Kino. She uſed the cold bath. A little blood appeared again on the 30th, and on February 7th. On the 14th, ſhe was diſmiſſed cured.

EXPER. II. Jan. 3, 1776. Margaret Taylor, 18, has been affected with menorrhagia for three weeks, attended with pains of the belly and back. She took the tincture of roſes, opiates, and the Peruvian bark, which laſt ſtopped the haemorrhagy for two nights; but it returned on the 15th. The glaſſes were applied to both mammae at 5 P. M. and the diſcharge ſtopped in the night-time. The application was continued for two days, twice a day. Though the blood ſtopped, the pains of the belly remained, and ſhe was attacked with aguiſh fits. 28th, After ſome ſevere labour, the menorrhagia returned.

turned. The glaſſes were again applied to the mammae, and an hour afterwards the hemorrhagy ſtopped. After this, ſhe got ten grains of the gum Kino, twice a day. 31ſt, Diſmiſſed cured.

EXPER. III. Marion Adamſon, 36, came in with a fever; and, after recovery, January 10th, ſhe was ſeized with a flooding, at the diſtance of fourteen days only from the laſt period of menſtruation. She had the tincture of roſes, opiates, nitre, and an application of cold water to the belly, by which the diſcharge was a little leſſened. 15th, The cupping glaſſes were applied to both breaſts; and the diſcharge ſoon afterwards diminiſhed. 16th, The application was repeated, and the hemorrhage diſappeared this afternoon, and returned no more; but the pains continued for ſome days.

Thus cupping glaſſes, applied to the mammae, ſeem to have a ſudden and powful effect in ſtopping hemorrhagies from the uterus. Women in childbed often die of a flooding. This remedy muſt, then, not only be powerful, but of quick operation. It will certainly be of uſe on both

theſe accounts. The glaſſes were ordered to be applied generally twice a day, and to be continued for a quarter of an hour. No reaſon occurs why they may not continue longer.

A multitude of facts point out a ſtrong communication betwixt the uterus and mammae. But, whether the famous anaſtomoſis betwixt the hypogaſtric and mammary arteries, a nervous ſympathy and communication, or ſome general law of nature uſeful to the body, occaſion this, is of leſs moment to us to aſcertain, than a knowledge of the fact.

This application is alſo uſeful in other hemorrhagies.

EXPER. IV. March 16. Janet Burn, 21, laboured under a haematemeſis, and various other complaints. Many medicines were tried in vain. Amongſt the reſt, cupping glaſſes were applied to the ſtomach, for an hour, twice a-day. In two or three days, the blood diſappeared, and was afterwards little ſeen.

I have found, likewiſe, that it ſtopped a ſimple vomiting attending a dyſpepſia. It, therefore, appears to be a powerful remedy,

remedy, and capable of doing more ſervice than is commonly thought.

SECT. XXIV.

Experiments upon ſome Lithontriptics.

CAUSTIC LIE.

Uncommon attention has been paid, by phyſicians, for theſe thirty years, to ſuch medicines as were ſuppoſed to poſſeſs a power of diſſolving the ſtone. Mrs. Stephens's remedies were ſoon found to be too bulky and inefficacious; nor could all the attemps to ſimplify them ſupport their reputation. Lime-water next appeared, and underwent the ſame fate. Cauſtic lie was diſcovered, by Dr. Hales, to diſſolve urinary calculi, and has been much uſed ever ſince Dr. Jurin publiſhed an account of his own cure by it. Chittick's medicine is now aſcertained to be cauſtic alkali. Some experiments are, therefore, neceſſary, to fix the value of that remedy.

EXPER. I. April 1, 1769. Thomas Duggen, 14, was ſeized, about five years

ago, with a pain in the ſmall of the back, ſtretching down to the os pubis, along the courſe of the ureters; and ſince that time, he has been ſubject to frequent ſolicitation to void urine, dyſuria, pain at the end of the urethra, teneſmus, purging, and ſometimes coſtiveneſs, and nauſea. His urine often ſtopped ſuddenly. He frequently paſſed ſand, and for a year bypaſt a ſtone almoſt every fortnight. After admiſſion into the hoſpital, he was put on a courſe of the cauſtic alkali; and, when admitted into the clinical ward, he was taking fifty drops of it in three gills of veal broth, twice a day. May 14th, Cap. gtt. LX. ter in die. 21ſt, He paſſes great quantities of purulent-like matter, that falls to the bottom of the glaſs. The pains and difficulty of voiding his urine are eaſier. Rep. ad gtt. LXX. ter in die. June 3d, Augeat. doſ. lixivii ad gtt. LXXXV. juſculi ad lib. i. 8th, He thinks that the medicine excites pains in his ſtomach. 15th, Augeat. doſ. ad gtt. xc. He has, for ſome time, paſſed his urine involuntarily. July 2d, He had, laſt night, a nauſea, and ſevere nephritic pain in his left kidney. Being put

put into the hot bath, he felt the pain gradually deſcending downwards, and then it diſappeared. 14th, Augeat. doſ. ad gtt. c. 27th, His urine is retained better, and is paſſed without ſtopping. Aug. 22d, He has been more uneaſy when he voids his urine for ſome days. Sept. 6th, He was diſmiſſed ſomewhat relieved, after having taken this medicine for five months, in conſiderable doſes.

EXPER. II. May 2. Robert Yates, 5 years of age, was ſeized, after a fever, about a year ago, with a conſtant deſire to paſs urine, which was frequently bloody, and often ſtopped ſuddenly. He had a ſevere pain in his bladder, teneſmus, and uneaſineſs about the point of the urethra. He ſometimes paſſed ſand and mucus. His pulſe was frequent. When ſounded, a ſtone was diſcovered. He was put on a courſe of uva urſi; but without procuring any eaſe. May 9th, He began to take of the cauſtic lie, fifteen drops, in veal broth, twice a day. 12th, He took twenty drops, thrice a day. 14th, He is much pained. Each doſe was increaſed to twenty-five drops. 21ſt, He paſſes more urine than

uſual. The doſe was increaſed to thirty drops. 24th, There is ſome blood and ſand at the bottom of his urine. Takes thirty-five drops, in three gills of broth. June 1ſt, Pains are eaſier; and he has more urine, which is paſſed with greater eaſe. The doſe was increaſed to forty drops. 11th, He has had much difficulty of paſſing his urine for theſe five days. The doſe of the cauſtic lie was increaſed to fifty drops. 25th, His eyes are inflamed; and he has pains of his belly. Sit venaeſect. ad unc. iii. Blood rather thick than diſſolved. 31ſt, His urine bloody. July 18th, Takes ſeventy drops. He has had much pain, and great difficulty of paſſing his urine, for ſome days. He was diſmiſſed, after trying it for three months, without having received much relief.

EXPER. III. May 11, 1770. Andrew Muriſon, 50, was ſeized, about a year and a half ago, with frequent ſolicitation to paſs urine, and ſudden ſtoppage while it was paſſing, with pain about the bladder and point of the penis, teneſmus, and retraction of his left teſticle. After ſevere exerciſe, his urine was generally bloody.

On

On ſounding him a ſtone was felt. Cap. lixiv. cauſt. gtt. xxx. in juſcul. vitulin. ten. ter in die. 19th, Each doſe was increaſed to ſixty drops. June 3d, He takes an hundred and twenty drops in each doſe, and complains, that from its acrimony, it pained his lips, throat, and ſtomach. His body is very bound. Cap. flor. ſulph. drach. ſs. h. ſ. 23d, He takes now about two hundred drops, thrice a day. July 4th, He is no better. He was therefore remitted to the ſurgeons, and a granulated ſtone, weighing above an ounce, was extracted. This patient was near eight weeks under this courſe, and took, at laſt, about ten ſpoonfuls a day, without any ſenſible advantage.

EXPER. IV. December 2, 1778. John Robertſon, 22, has been ſubject, from his infancy, to ſymptoms of the ſtone in the bladder. When ſounded, a ſtone was felt. Cap. lixiv. cauſt. gtt. xx. in infuſ. lin. unc. iv. & repet. quater in die. Auguſt 6th, Augeat. doſ. ad gtt. XL. ℞. Lixiv. cauſt. gtt. XL. aq. font. unc. iv. M. & injiciatur in veſicam mane & veſpere. The injection was performed by a catheter, and

a bladder affixed to its end. He retained it four hours; and when paſſed, it appeared turbid. 9th, He was ſeized with a ſhivering fit laſt night, with a pain in his right kidney; and with head-ach and delirium during the night. Pulſe 116, and ſtrong. His medicines were ſuſpended. He was frequently bled; and, in a few days, the fever went off. As the fever was ſo violent, it muſt have been produced by ſome other cauſe than the drops or injection, and increaſed by freſh nephritic complaints. But, as he ſeemed in ſuch an irritable ſtate, it was not thought proper to begin the cauſtic lie again.

The lie was tried in two other caſes of ſtone in the kidney; but with no better ſucceſs.

From the preceding experiments, one would be apt to form the moſt unfavourable opinion of this lithontriptic, as it never cured, and but once mitigated the ſymptoms, though it was continued for a longer time than to which moſt patients would be willing to ſubmit, and given to the utmoſt quantity that the ſtomach could bear. The ſymptoms, in ſome of the pre-

preceding patients, appeared to be aggravated by it.

But I am ſtill unwilling to paſs a ſevere ſentence on this remedy, as the experiments are but few; as ſome of the above patients were young, which makes the caſe more unfavourable; as in theſe patients the calculi might have been of a nature leſs ſuited to be acted upon, from their compoſition or hardneſs; as in Dr. Jurin's caſe, and ſome few others, calculi appear to have been diſſolved by it; and, as I found, from the following experiments, that the urine of thoſe taking this medicine was ſtrongly impregnated with the cauſtic alkali.

It has been objected to this, and to other alkaline lithontriptics, that they muſt be neutralized by the acid, which they will find in the primae viae, or be much weakened by a conjunction with the oily particles, which they muſt meet there, or in the fluids. To this it may be anſwered, that an acid is not always to be found in the primae viae, as it is a morbid, and not a natural product, of theſe parts; and that oily particles may weaken the cauſtic

cauſtic lie, but cannot altogether deſtroy its effects. To decide this point, the following experiment was tried.

EXPER. V. June 6. I mixed ſome of Thomas Duggen's urine, while under the courſe of cauſtic alkali, with the ſyrup of violets, and the colour of it was changed to a light green. The ſame happened on a mixture of Robert Yates's urine. This experiment was repeated with the urine of one not taking the cauſtic lie, but without producing the ſame colour.

EXXER. VI. Spirit of vitriol, diluted with water, was mixed with Duggen's urine; and, on looking through the glaſs, an evident inteſtine motion could be perceived in the mixture, a plain proof of alkaleſcency in the urine. No air bubbles, indeed, aroſe; but the cauſtic alkali neither does, nor can afford any.

Theſe two experiments ſhow, that the urine is impregnated with the qualities of the cauſtic alkali.

My next trials were, to diſcover whether ſuch urine poſſeſſes any lithontriptic powers.

EXPER. VII. Auguſt 6. A calculus, of a ſoft texture, was broken into pieces of

of a ſimilar ſhape. Four of theſe pieces were reduced to the weight of twenty-ſix grains each; and each of them was infuſed in ſix ounces of the four following liquors: common water; Duggen's medicine, which was in the proportion of an hundred drops of the cauſtic lie to a pound of veal broth; Duggen's urine; and Yates's urine. Auguſt 10th, The different pieces of calculi were taken out of the liquors, and dried. The next day, the calculi in the water, and in the broth, were found of the ſame weight as when they had been put in. But that in Duggen's urine had loſt one grain; and that in Yates's had loſt two grains

EXPER. VIII. Auguſt 16. I repeated the ſame trial, and allowed the calculi to remain for ſeven days in the different liquors. After the pieces were dried, I found, that thoſe in the water and broth had loſt each a grain and an half; that, in Duggen's urine had loſt three grains; that, in Yates's urine, had loſt four grains. From theſe two experiments it appears, that cauſtic lie, mixed with broth, in the proportion mentioned above, has no more

effect on the ſtone than water has; but, when it is ſecreted along with the urine, it regains its ſolvent power. This is owing to the gelatinous and oily nature of the broth, deſtroying the action of the lie, and, from that property, becoming fit to protect the primae viae. But the broth is, afterwards, converted into nouriſhment, and the cauſtic lie is ſeparated along with the urine, in which ſtate it regains ſome ſhare of its activity.

EXPER. IX. I got a ſtone, which had been lately extracted, and infuſed it in water for ſeveral days, to remove all looſe matter from it. After it was dried, it weighed ten drachms and ſix grains. This ſtone was put into ſix ounces of Yates's urine, changed daily, for twenty days. It was then taken out; and, when dried, was found to have loſt forty-two grains.

It appears, therefore, from theſe three laſt experiments, that the urine of patients taking the cauſtic lie enjoys ſome power of diſſolving ſtones, and that we cannot altogether deny the lithontriptic power of this medicine, to which opinion our preceding trials would otherwiſe have naturally

rally led us. Do calculi conſiſt of ſuch different, and often oppoſite, component principles, that a ſolvent which affects one will not act on another? This opinion is not yet ſufficiently aſcertained by experiment, without which it appears to be rather improbable; and ſeems to be refuted by Exp. XIII. Is the ſoftneſs and porofity of the calculi ſufficient to account for the different effects of the lie? I ſhould think it ſufficient; as in calculi of ſuch a texture, the menſtruum will gain eaſier acceſs; as this has been obſerved as a cauſe of the difference of ſolubility of calculi in all experiments on lithontriptics out of the body; and as the calculi, in two of the above experiments, were but pieces broken off from a larger ſtone.

MEPHITIC AIR.

Hales found, that the ſteams of fermenting bodies diſſolved calculi. Hence Mephitic Air or water impregnated with it, have lately laid claim to a place among lithontriptics. Dr. Percival, to whoſe experimental genius medicine is much indebted,

debted, has found it to be a very general ſolvent of calculi out of the body. Dr. Saunders has drawn the ſame concluſion from his experiments. Dr. Percival likewiſe found, that the urine of a young man, while drinking mephitic water, was impregnated with it, and that his urine poſſeſſed a lithontriptic power. Its known quality of diſſolving magneſia, precipitated lime, and iron, entitles it to our attention in this way. It has the additional advantage of being agreeable to the taſte, ſalutary to the body, and may be taken in any quantity.

On the other hand, it may be replied, that the inhabitants about Pyrmont, Spaw, Seltzer, and over all the higher Germany, where there are few villages without a *ſour water*, as they call it, are as ſubject to the ſtone as thoſe of other countries; that theſe waters never diſſolved a confirmed ſtone, though they are allowed to have ſometimes relieved the ſymptoms, and they are certainly more fully ſaturated with it than the artificial water is; and that lime-water and cauſtic lie, act by looſening and attracting the fixed air of the

the calculus; but that the mephitic air, ſo far from favouring the eſcape of what is there, muſt accumulate more, and add to its ſize and weight. Experiments alone on calculous patients can decide this queſtion; and I know of none yet publiſhed, from which a deciſive concluſion can be drawn.

EXPER. X. John Robertſon, Exp. IV. after the retreat of the feveriſh ſymptoms, appeared to be a favourable patient for the exhibition of this medicine, as it would, at leaſt, fit him, by its tonic powers, for lithotomy, if it did no ſervice as a lithontriptic. He was accordingly ordered to drink two pints of mephitic water a day, and to have four ounces of it injected into his bladder every morning, and as much every evening. He generally kept the injection for four hours; felt it hotter than the natural evacuation when it was paſſing; and it appeared of a deeper colour, and had leſs of a white mucus ſediment than his urine. He continued in this courſe for twenty-ſix days, without any alleviation of his ſymptoms, or any appearance of the ſtone being diſſolved. He

was

was afterwards cut, and a large ſtone was taken from him. It was honey-combed, and friable; but that is the nature of many calculi, where no medicines have been given. In this caſe, mephitic water ſeemed to be attended with no ſucceſs. It would be unfair, from a ſingle experiment, to draw any general concluſion. We muſt, therefore, await the iſſue of further trials.

To diſcover whether the urine was impregnated with any ſolvent power.

EXPER. XI. I filled two glaſſes with ſome of Robertſon's urine, ſix hours after the mephitic injection was paſſed, and changed the urine every day. Into one glaſs, was put an entire calculus, weighing an ounce and two grains; into the other, a fragment of a ſoft calculus, weighing twenty-two grains. In three days, the large calculus loſt five grains, and the ſmall gained half a grain. From this experiment no certain concluſion can be drawn.

To diſcover whether his urine was impregnated with mephitic air.

EXPER.

EXPER. XII. His urine, ſeven hours after he had paſſed the mephitic injection, was filtrated, and lime-water was dropped gradually into it, through a filtrating paper. A cloud, which was thick, and floated on the top, was by degrees formed. On agitation, it was diffuſed; and the whole liquor was full of flocculi, became turbid, and continued ſo. The ſame trial being made with common urine, it became ſlightly turbid, and ſoon cleared itſelf. The urine, therefore, appears, from this experiment, to be, in ſome degree, impregnated with mephitic air.

From the preceding trials, I was naturally led to doubt of the original lithontriptic powers of this fluid; ſo got the following experiment to be performed by Mr. Kerr, Apothecary to the Royal Infirmary, who was then in the daily practice of making the mephitic water.

EXPER. XIII. He infuſed the two calculi, mentioned before, in two glaſſes of mephitic water, which was renewed every day. After being kept three days in it, the calculi were dried, for fifteen hours, before the fire. The larger, which was an

entire calculus, gained thirteen grains and a half; the ſmaller, which was a fragment, loſt two grains. This difference in the operation of mephitic water on the two calculi, cannot be attributed to a difference in their component parts, as the ſame large calculus, infuſed in Robertſon's urine, had formerly loſt five grains; and the ſame ſmall one had formerly acquired half a grain. Such uncertainty in the reſult of experiments, accurately made, muſt throw much doubt on the lithontriptic powers of mephitic air.

Dr. Lamphiers experiments, related in his theſis, printed in the year 1778, afford the ſame concluſion as the preceding; for, on expoſing a calculus to mephitic air, he found that it gained an addition of weight; and, in two experiments where calculi were infuſed in mephitic water, the calculus became heavier in one, and lighter in the other. In Dr. Plunket's experiments, publiſhed laſt autumn in his inaugural diſſertation, neither mephitic air, which had no communication with the exernal air, nor his own urine,

urine, while drinking four pounds and a half of mephitic water a day, had the leaſt power of diſſolving a calculus, though the urine, from diſcovering ſome weak antiſeptic powers, appeared to be ſlightly impregnated with mephitic air.

FINIS.

wine, while drinking four pounds and a half of mephitic water a day, had the least power of diluting a calculus, though the urine, from discovering some weak antiseptic powers, appeared to be slightly impregnated with mephitic air.